

MANUFACTURERS RECORD

A Weekly Newspaper Devoted to the Industrial, Financial, Railroad,
Mining, Contracting, Engineering, Building, and General
Business Interests of the South and Southwest

Vol. 69
No. 15

ESTABLISHED 1882

\$4.00 Per Year
Single Copy 15 Cents

Imperative Issues of the Hour

Locate Armor Plate Plant, Munitions
Factories, Adequate Iron and Steel
Industries, Outside the Danger
Zone.

Adopt Immediately Such Changes in
Our Tariff Laws As May Be
Needed to Save Our Industries
From Destructive Foreign Com-
petition at the War's Close.

BALTIMORE, APRIL 13, 1916



First Aids

TO THE

Boiler Room

Climchfield Fuel Company

SPARTANBURG, S. C.

ALLIS-CHALMERS MANUFACTURING COMPANY

MILWAUKEE, WIS.

Power and Electrical Machinery

Steam Turbines
Hydraulic Turbines
Corliss Engines
Gas Engines
Electric Motors

Electric Generators
Pumping Engines
Air Compressors
Condensing Apparatus
Centrifugal Pumps
Oil Engines, Etc.

Combined contracts for complete power units with undivided responsibility insure satisfactory service

Offices in All Principal Cities

For all Canadian Business refer to Canadian Allis-Chalmers Co., Ltd., Toronto, Ontario, Canada.

FOREIGN REPRESENTATIVES: H. I. Kent, 72 Salisbury House, London, E. C. London, Eng. Frank E. Perrot, 101 Bay St., Perth, W. Australia. E. Perrot, 24 Clarence St., Sydney, N. S. W. Mark E. Lamb, Huanchuan Casilla 203, Santiago, Chile.

DISTRICT OFFICES

Atlanta, Ga., 1104 Healy Bldg.
Boston, Mass., 60 Congress St.
Buffalo, N. Y., Ellicott Square Bldg.
Chicago, Ill., People's Gas Bldg.
Cincinnati, O., First National Bank Bldg.
Cleveland, O., Schofield Bldg.
Dallas, Tex., Sumter Bldg.
Denver, Col., First National Bank Bldg.
Detroit, Mich., Ford Bldg.
Duluth, Minn., Alworth Bldg.
El Paso, Tex., 1504 Upson Ave.
Indianapolis, Ind., Traction Terminal Bldg.
Kansas City, Mo., Waldheim Bldg.

Los Angeles, Cal., Title Insurance Bldg.
Milwaukee, Wis., West Allis Works
Minneapolis, Minn., Corn Exchange Bldg.
New Orleans, La., Malcom Blanche Bldg.
New York, N. Y., 30 Church St.
Philadelphia, Pa., Pennsylvania Bldg.
Pittsburgh, Pa., Frick Bldg.
Portland, Ore., 11 First St.
St. Louis, Mo., Railway Exchange Bldg.
Salt Lake City, Utah, Kearns Bldg.
San Francisco, Cal., Kaito Bldg.
Seattle, Wash., 111 Jackson St.
Toledo, O., Ohio Bldg.

RALEIGH-POCAHONTAS COAL CO.,

NO. 3 CELEBRATED
POCAHONTAS
COAL

NEW RIVER
SMOKELESS
COAL



ROOMS 315-16-17
BOARD OF TRADE MARK

ANNUAL CAPACITY
1,000,000 TONS

NORFOLK, VA.



Style XX30

ROLLER BEARING CARS and TRUCKS

OF ALL KINDS, FOR ALL PURPOSES
SWITCHES, TURNABLE

Complete Industrial Railway Equipment

Write for Catalogue and Prices

THE CHASE FOUNDRY & MFG. CO.
COLUMBUS, OHIO



Fire Clay Stovepipe and Fittings

Fire Clay Goods

We manufacture a superior quality of fire clay goods, including flue linings, stovepipe, drop bottoms, chime bottoms, hoods, latest pattern chimney tops, etc.; also dry milled fire clay in bulk or sack.

Write for Catalog and Prices

SOUTHERN SEWER PIPE COMPANY, Birmingham, Ala.

STEEL CASTINGS

FROM 1 to 1000 LBS.

"SALAMANDRINE" STEEL POTS, for Lead, Annealing and Galvanizing
RIVERSIDE STEEL CASTING CO., NEWARK, N. J.

CASTINGS GREY IRON

D. F. HULL'S SONS

Hagerstown, Md.

We make a Specialty of Castings of All Kinds

Malleable Iron Castings of Highest Quality

Annual Capacity 25,000 Tons.

Castings of all descriptions furnished

Send Blueprints or Samples for Estimates

MISSOURI MALLEABLE IRON CO.

EAST ST. LOUIS, ILL.

The Cutler Mail Chute

A recognized necessity in modern buildings of the office, hotel and apartment class.

Send for circulars and full information to the sole makers:

CUTLER MAIL CHUTE CO.

Rochester, N. Y.

Allen Safety Set Screws

We make a
SPECIALTY
OF
SHORT
LENGTH



Allen Socket Caps are neat in appearance and exceedingly strong. Send for circular No. 16. Samples on request.

ALLEN MFG. CO.

Hartford, Conn.

173 Princess Street, Manchester, Eng.

MANUF
RICHARD
FRANK C
RICH

NEW YORK
STON, 7

scription
State
Phillip
in the

Entered a

In ord
ertain
add
ecord,
itors,

HOW
lea
the du
Every
gumen
me sec
es.
Every
tting
Every
redne
n and
esent.

OUTI

THI
ref
nk co
ation
State
Mar
ow a
te de
at ye
elr
ay an
ecoun
adling
ese
unles
ation
ertion
In M
2 In
at ca
sits
0.61
5.43
7, 1
crea
the
Ala
of
tot
63,
In
e E
ate
sal
0.0
ace
ws
an
d

MANUFACTURERS RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

Trade-Name Registered in the U. S. Patent Office

Vol. LXIX. No. 15-
WEEKLY.

BALTIMORE, APRIL 13, 1916.

\$4.00 A YEAR.
{ SINGLE COPIES, 15 CENTS.

PUBLISHED EVERY THURSDAY BY THE
MANUFACTURERS RECORD PUBLISHING CO.

RICHARD H. EDMONDS, Pres. VICTOR H. POWER, Treas.
FRANK GOULD, Vice-Pres. I. S. FIELD, Sec'y.

RICHARD H. EDMONDS, Editor and General Manager

BRANCH OFFICES:

NEW YORK, 52 Broadway CHICAGO, 1409 Fisher Bldg.
BOSTON, 733 Old South Bldg. ST. LOUIS, 608 Century Building

Subscription \$4 a year (payable in advance) to United States, Mexico, Cuba, Porto Rico, Hawaii and the Philippines. To Foreign Countries (including Canada) in the Postal Union, \$6.50 a year.

Entered at the Baltimore Postoffice as second-class matter.

In order to avoid delays, all correspondence relating to news or advertising matters should be addressed directly to the Manufacturers Record, Baltimore, Md., and not to individual editors, officers, employees or any branch office.

How long are our iron and steel men willing to leave their own business and the nation subject to the dangers of existing iron and steel conditions? Every argument for battleships and cruisers is an argument for establishing an armor-making plant in the section not dependent upon Lake or foreign sources.

Every argument for an army is an argument for building munition plants far away from the coast.

Every argument for any phase of national preparedness is an argument against permitting our iron and steel and munition plants to continue as at present.

SOUTHERN GROWTH SHOWN IN BANK FIGURES.

The increasing prosperity of the South is well reflected in statements recently issued by State bank commissioners, several of which official publications have come to hand.

State banks in South Carolina, in their reports as of March 7, compiled by the State Bank Examiner, show an increase of more than 20 per cent. in aggregate deposits as compared with the same month of last year, the amount of gain being nearly \$8,000,000. Their loans and discounts and total resources display an increase of more than \$4,500,000. Loans and discounts are \$51,685,180, and total resources, including the loans and discounts, are \$71,933,002. These statistics cover 301 State banks and trust companies, two private banks and twelve branch banks. National banks are not included, but they show proportionately similar increases.

In Maryland the State banks and trust companies, in number, report in March increases over the last call several months ago as follows: Demand deposits \$70,050,108, increase \$550,176; time deposits \$9,618,491, increase \$970,131; surplus fund \$13,543,7, increase \$285,889; undivided profits \$3,460,7, increase \$172,914; total resources \$159,588,978, increase \$1,933,086. Loans and discounts, included in the foregoing, were \$66,688,659.

Alabama State banks report an increase in deposits of \$1,327,187 as compared with the last call in October, 1915. Surplus and profits increased \$63,814.

In Missouri, according to a statement issued by the State Bank Commissioner at Jefferson City, the 1370 State banks and trust companies in that commonwealth reported March 7 total resources of \$529,000,000 in round figures, an increase of \$47,000,000 since March 4, 1915. Other increases were as follows: Deposits, \$45,000,000; cash and sight exchange, \$20,750,000; loans and discounts, \$17,500,000; undivided profits, \$1,074,000.

WHY THE GOVERNMENT SHOULD BUILD AN ARMOR PLANT.

THE passage by the House committee by a large majority of the bill for the construction by the Government of an armor-plate plant indicates that this measure will pass the House and the Senate and result in the erection of a Government armor plant.

In the defeat of the Bethlehem Steel Co., which has been the leader in the fight against the Government plant, the officials of that company should recognize that they are more largely responsible for compelling the Government to take this stand than anyone else, unless the arguments of the MANUFACTURERS RECORD in favor of a plant located away from existing iron and steel centers be recognized as a dominant power in the defeat of the Bethlehem propaganda and in the vote in behalf of the Government plant.

When the Bethlehem people openly announced that they would advance the price of their armor plate if the Government undertook to build a plant, they made a statement which in effect was such a threat, and which was so intended, that self-respect on the part of the Government demanded and will literally compel Congress to favor a Government plant. Had the Bethlehem, when it withdrew its threat, or any other armor-plate people been willing later on to offer to build a plant away from the seaboard and far enough into the interior to safeguard it against the possibility of invasion, it is altogether probable that Congress might have been inclined to accept that instead of voting in favor of a Government-owned plant.

It is to be regretted that the position taken by the Bethlehem Company in its circular-letter issued to the public was of a character which could not possibly carry weight with thinking people. Most of these circular-letters indicated an utter lack of appreciation of the situation. Instead of being helpful to the cause of the armor-plate people, they were harmful to the extreme.

One of the arguments persistently put forth was that the National Government could not afford to spend \$11,000,000 at the present time for the purpose of building a plant. It seems almost inconceivable that men of such ability as that of the officials of the Bethlehem Company should have been so shortsighted and so narrow visioned.

This Government could well afford to spend not \$11,000,000, but ten times that amount, if necessary, to protect its armor-plate needs from the dangers which now face us by reason of existing iron and steel conditions.

With an annual increase in national wealth of about \$10,000,000,000, it is amazing that business men could use as an argument against a Government plant a statement that the nation could not afford to spend \$11,000,000 in a work of that kind. It is a narrow view, wholly unworthy of the splendid managerial ability of the Bethlehem officials. They ought to have been more wisely advised before they undertook to put out so flimsy an argument.

Indeed, the whole fight made by the Bethlehem Company failed to bring out the best points which could have been raised by the company, and, on the contrary, brought forth the weakest arguments that could be imagined. The contest was started with a statement that naturally aroused the antagonism of the thinking people of this country. The situation was somewhat benefited later on by an entirely different tone adopted by the company in its offer to Congress. This, however, did not offset the unwise or flimsy arguments advanced later on.

No one desires to see the armor-plate people lose any of the investments which they have made in

their plants. We are quite sure that Government officials do not desire this, and we believe that had all of the armor-plate interests taken an entirely different stand and handled the discussion in a better manner, there would have been far less disposition to put the country into the armor-plate business.

It would, however, as the MANUFACTURERS RECORD has repeatedly said, be criminal for Congress to leave this country in its present wholly unguarded condition, with its armor-plate industries, its munition-making business and its shipbuilding interests and 90 to 95 per cent. of its steel industry all dependent upon one source of ore supply which could be instantaneously cut off, bringing disaster to these and all other interests in the country. It is true that a limited amount of foreign ore is imported, but this is so small that it does not amount to much, being about 2,500,000 tons a year, and in time of war this would naturally and inevitably be cut off, since we have not a navy sufficient to enable us to maintain control over the seas and bring ore from other countries.

Unless the great iron and steel interests of the country, from purely selfish interests of safeguarding their own investment as well as from patriotic reasons looking to the national welfare, are willing to begin a broad development of iron and steel and munition making in the interior and not dependent on Lake Superior or foreign ores, then the time is not far distant when the nation itself, for its own welfare, will be literally compelled to take up and carry forward such constructive activities, and the armor-plate plant will be only the first step in this direction.

American people cannot permit existing conditions to continue without being guilty of a folly so great as to justify the destruction of national life by some invading power.

If the iron and steel men fail to recognize this situation, they will find that armor-plate making by the Government is only one step toward a development which private capital and the iron and steel people themselves should undertake and thus keep the Government from being forced to do such work. And if the Government be forced into this position, it will be compelled to make the most of it.

It is to be hoped that the men upon whom this responsibility rests will not undertake to present arguments as weak as those advanced by the Bethlehem Company.

During the discussion of the armor-plate question in the Senate it was intimated at one point that the armor-plate people controlled the sources of raw materials and the Government would not, if it built a plant, be able to secure the materials needed for armor. We do not for a moment believe that any of the armor-plate people are responsible for this intimation. We cannot conceive that any of them would even privately take such a position, and certainly none of them, we are sure, would be guilty of issuing a false statement of this kind as a basis for an argument.

Fortunately for the country, the armor-plate people do not control the raw materials of the country. There are vast supplies of iron ore and coal which are not owned by any of the big corporations. In various parts of the South and Southwest there are abundant supplies of ores which can be secured from independent owners, and it would be entirely possible for the National Government to buy at reasonable prices ample ore reserves and unlimited coal supplies on which, if necessary, to base the development of an iron and steel plant adequate to the production of sufficient steel for all of its gun and armor-plate making. It is to be hoped that the iron

and steel people of the country will be wise enough not to force the Government into such a move as this. There are independent iron-ore concerns in the South and Southwest who would, we are sure, be perfectly willing to offer their properties to the Government and permit the valuation on them to be placed by any independent experts or by arbitrators in order to give to the Government the assurance of ample supplies of raw materials.

Any movement looking to an intimation or a suggestion that the Government cannot get the raw materials for armor-plate making, or that it cannot get men of sufficient ability to run such a plant, would in itself be a greater mistake than any yet committed by the Bethlehem Company in its supposed arguments against armor-plate making by the Government.

If this Government is dependent in any respect for facilities for making munitions of war upon private ownership of such properties, it is time to bring about a change.

If this Government has not men of sufficient ability to compete with the technical skill of the highest experts in the employment of private concerns, then it is time for it to meet this situation and train its navy and army officers into work of this character.

This Government should have in its employ men equal in technical ability to the highest in the land, and it should be able to command abundance of raw materials for every possible line of munition work, whether it be gun-making, the manufacturing of shells, or armor plate, or nitrates which it may need. War is a Government business, and to a large extent war materials, whether they be ships or guns or explosives, should be made by the Government. There are many reasons for this, but one prime reason is that if army and navy officers do not get practical training in building ships and guns and making armor plate, they will never be able to get the best results out of the use of these things.

All of the discussion that is now taking place on the subject is throwing a great white light upon the needs of the country and the responsibilities which it faces.

DIVERSIFICATION BRINGS INCREASED VALUES OF LANDS.

ONE of the beneficial effects of the diversification of crops in the South is shown in the sudden rise in the value of farm lands without improvements throughout the South Atlantic States, as shown by recent figures of the United States Department of Agriculture. While the increase in this division of the country was 19 per cent. in the past year, as against an average rise in value of 11.5 per cent. for the whole United States.

The value of farm lands of the United States, without improvements, is estimated at \$45.55 per acre, as compared with \$40.85 a year ago, \$40.31 two years ago, \$38.10 three years ago, and \$36.23 four years ago. The census reported the value of farm lands in 1910 as \$32.40, and in 1900 as \$15.75 per acre.

In recent years the value of farm lands has been increasing at the rate of about 5 per cent. a year, or approximately \$2 per acre per year. The exceptional increase of the past year may be explained partly by the reaction in the Southern cotton States, following a temporary depression last year, and partly by the stimulant given by the war to prices, particularly of grain.

Increases have been general throughout the United States, the only noteworthy exception being orchard lands and some irrigated lands in the Northwest, which apparently have been overvalued before.

The percentage increases in value of farm lands in the past year by sections of the United States are: North Atlantic States, 10 per cent.; eastern part of the North Central States, 9 per cent.; western part of the North Central States, 12 per cent.; South Atlantic States, 19 per cent.; South Central States, 11 per cent.; far Western States, 11 per cent.; entire United States, 11.5 per cent.

The percentage increases in farm land values in four years—that is, since 1912—are: North Atlantic States, 17 per cent.; eastern part of North Central States, 20 per cent.; western part of North Central

States, 28 per cent.; South Atlantic States, 23 per cent.; South Central States, 25 per cent.; far Western States, 34 per cent.; entire United States, 25.7 per cent.

WHAT ANSWER CAN THE SOUTH MAKE TO THESE QUESTIONS?

IT is well for a section as well as for an individual to see itself as others see it.

The South has not always been willing to look at matters in this light. This is especially true as to its political faith and its willingness to pray one way while voting another. Its business men to a very large extent have for many years been in favor of a protective tariff, but because of environment or through lack of the right kind of courage they have said little in favor of their belief and have permitted the politicians of this section to sacrifice it upon the altar of hatred, erected at the close of the war, to those policies which were supposed to be favored by the Republicans. It mattered not whether in former days the South had favored these policies or not.

For the last fifty years its politics and its business interests have been cursed by the bugaboo of negro domination raised up by politicians to frighten the people and hold the South to free-trade theories when, of all sections, it was the one that most needed a protective tariff.

A side-light upon the influence which such policies have had in discouraging the investment of capital in the South is seen in a letter from a leading business man of Northern New York to the editor of the MANUFACTURERS RECORD. The writer of this letter has no bias or prejudice against the South; he has nothing but the kindest feelings for it, and he would be glad to see it prosper, but the view which he expresses in this purely personal letter is the one held by a great many financiers and moneyed people of other sections.

Omitting names, we publish this personal letter in order that our readers in the South may see the handicap under which this section is laboring. In the course of his letter our friend writes:

I thank you for the collection of your wonderful editorials on "Insuredness." To say that I have read them with interest would be but a faint expression of the value I place on them.

I have no answer. I have no criticism. But I wonder if I may ask a question?

You have urged the large manufacturing and financial interests to do some extensive developing in the South. I presume you will grant that no man will voluntarily risk his capital in a place where he feels he will not be accorded fair treatment.

Remember, I am not making any statement. I am merely asking a question. I have no personal knowledge nor have I had personal experience. But does the average location in the South offer a friendly and fair hand to capital? I won't say to Northern capital, although I presume that interests large enough to accomplish what you propose would be Northern. But is it or is it not a fact that the Southern mind instinctively distrusts large capital? Does it or does it not feel an antagonism toward "big money"? Have or have not most of the assaults on the "interests" and the "money trust" originated or found their chief support in the South?

One of my father's best friends was ——— of Chicago. Mr. ——— was, as you may remember, at various times president of the ——— Railroad, owner of ——— Steel Co., president of ——— Railway, a leading factor in the ——— Steel Co., owner of the ——— Iron Co. and ——— Railway, and organized ——— Steel Co. I knew Mr. ——— myself and look upon him as one of the ablest and most loyal and honorable of all men.

At one time, about 1895-1900, I think, Mr. ——— made a large investment in the South. It failed. He attributed the failure to direct robbery made possible under the laws of the Southern State in which the investment was made, and he stated to my father that he would never again invest a dollar south of the Mason and Dixon line.

I don't know this—I am simply told it—that the Northern man who visits in the South is accorded the greatest courtesy and largest hospitality, but if that Northern man wishes to stay and become one of them, he is permitted to do so only at the cost of giving up any and all views of his own and accepting wholly the idea of the community.

Again—and here I am stating my own views—what hope can a man have in putting his capital in a community which he knows will invariably, at all times, solidly support any and every insane and wicked theory, knowing, when it does, that it is striking at its own interest, so long as that theory is labeled "Democrat"?

I am no "Black Republican." I have on many occasions voted for Democrats. I disclaim ownership by any party. I always vote in accord with my best judgment, and I have no criticism for any man who follows his judgment, but when a section of the country is so unreasonably blind as to vote against its own judgment in order to follow some

insane or dishonest man who hangs out the trade-mark "Democrat," how can any man feel safe in trusting his property to such a section?

These very frank statements demand consideration of the people of the South.

Are the views expressed wholly erroneous, or is there any foundation for some of the feeling held by the writer of this letter in common with many thousands of business men in other sections?

That the South has been a leader in much of the agitation against business interests we all know well; that it has made many and serious blunders in its advocacy of free silver, in its agitation against corporations, in legislation which has driven out capital and has kept other capital away, every intelligent man in the South knows.

Is this section willing to keep on doing the same things and suffering the same losses?

Has not the time come for the men of affairs in the South to control this section rather than permit the politicians both to rule and to ruin it?

Despite the disadvantages under which the South has labored, it has very largely developed because nature has so marvelously blessed this region that it could not stand entirely still when the rest of the country was advancing so tremendously.

In a good many respects, however, the South is not keeping pace with the nation, and in some respects has actually fallen steadily behind.

Its percentage in iron production, notwithstanding its unequalled iron-making resources, is rapidly declining compared with the total output of the country.

It is making some increase in cotton production, but relatively this advance is not nearly so great as it was some years ago in comparison with the cotton mill interests of New England.

For many years it has been steadily decreasing in railroad construction until the building of new roads has almost reached the vanishing point.

This section, if it had utilized its advantages fully and had encouraged broader thinking and sounder legislation, would now be at the forefront, sharing to the fullest in the far-reaching industrial prosperity of the East and West.

We commend to the thoughtful attention of our readers the comments and questions put forth in the letter we are publishing.

Are these criticisms deserved?

Can satisfactory answers be given to the questions presented?

INDUSTRIAL GROWTH OF SOUTHERN CITIES.

THE preliminary summary of manufacturing enterprises in the following Southern cities has been compiled by the Census Bureau of the Department of Commerce:

Fort Worth, Tex.: For 1914 the amount of capital invested in manufactures was \$8,535,000, a gain of \$1,152,000, or 15.5 per cent., over \$7,443,000 in 1909. The value of its products was \$9,974,000 in 1914 and \$8,661,000 in 1909, the increase being \$1,313,000, or 15.2 per cent.

Temple, Tex.: The capital invested, as reported in 1914, was \$1,702,000, a gain of \$786,000, or 85.5 per cent., over \$916,000 in 1909, and the value of its products, which was \$1,452,000 in 1914 and \$1,346,000 in 1909, increased \$106,000, or 7.9 per cent.

Beaumont, Tex.: The capital invested, as reported in 1914, was \$4,940,000, a gain of \$933,000, or 23.1 per cent., over \$4,007,000 in 1909. The value of products was \$5,191,000 in 1914 and \$4,831,000 in 1909, the increase being \$360,000, or 7.5 per cent.

Marshall, Tex.: The capital invested, as reported in 1914, was \$2,040,000, a gain of \$350,000, or 20.1 per cent., over \$1,690,000 in 1909. The value of products was \$2,009,000 in 1914 and \$1,787,000 in 1909, an increase of \$312,000, or 17.5 per cent.

Petersburg, Va.: The capital reported invested in 1914 was \$6,497,000, as against \$5,221,000, being \$1,276,000 gain, or 24.4 per cent. Products for 1914 were valued at \$12,610,000, an increase of 41.5 per cent., or \$3,714,000 over the 1909 figure of \$8,896,000.

Roanoke, Va.: Investment of capital for 1914 was reported at \$9,666,000, an increase of \$4,838,000, or 100.2 per cent. over that of 1909, which was \$4,828,000. The value of products in 1914 was \$16,582,000, or \$9,321,000 increase over the \$7,261,000 for 1909.

TIME FOR PATRIOTISM IS AT HAND.

WORKING men and working women throughout the nation are beginning to realize that there is a great deal of buncombe in the appeals of politicians to class prejudice. For years they were told that the big corporations were squeezing the little ones and that "trust busting" would benefit the consumer.

They were told, for instance, that the removal of the protective tariff would reduce the high cost of living. The cost of living is higher now than when the protective tariff went into effect. The consumer has not been benefited in any way. The people were told that the dissolution of the Standard Oil Company would reduce prices to the consumer. The consumer is paying more for his gasoline now than before the Supreme Court handed down its decree of dissolution. The "trust busters" blithely predicted that suit for the dissolution of the American Tobacco Company likewise would reduce prices. But if any man is getting his tobacco cheaper today than before the tobacco company was segregated into its various original units, he is withholding his testimony. The simple fact about most of these suits is that they have merely increased overhead expenses.

Nearly all the machinery of the Government has been operating recently to increase the foreign trade of the United States, but little has been done to preserve domestic prosperity. Few realize the magnitude of the home market, which yearly absorbs upwards of \$35,000,000,000 worth of American products, or twice as much as the total export trade of the whole world.

A great deal is said about developing trade in South America, but the entire import trade of South America amounts to only \$850,000,000 a year, which is less than one-thirty-fifth of the value of American products absorbed in our own markets, and less than one-half of the value of manufactures in Greater New York City alone. Whatever adds to the prosperity of the manufacturing and agricultural interests of the nation adds also to the prosperity of the whole people. The cost of production and the cost of labor are almost synonymous terms. A manufacturer of wooden boxes, for instance, may have a payroll amounting to only 60 per cent. of his gross income, but the major portion of what he pays for lumber and machinery goes to labor. The cost of erecting the plant in which he does business was distributed largely to labor.

Recently the National Association of Manufacturers announced the inauguration of a nation-wide movement in behalf of the industries of the United States. The campaign is intended to enlist the co-operation of all Americans, regardless of their occupation, age or sex, and is absolutely without concern as to their political affiliation.

Pointing out that it is high time that employer, employe and capitalist should compare notes on our industrial and commercial outlook, the appeal to the citizens of the United States says:

"It is imperative that we take an inventory of American industry and appraise what forces are on the debit and credit sides of the account. Under unprecedented conditions that now exist, all legislative action designed to oppress industry should be halted. From patriotic consideration alone, all clamor for class privilege should stop, and all demand to restrict the free operation of industry should cease. Every worker in the United States—from the humblest to the highest corporation executive—should realize, as never before, the imperative necessity for united offensive and defensive action, if our productive industry and profitable commerce are to endure. Every employer in the United States should inform his workers and associates of the positive necessity for co-operating effort to conserve our national resources. It is even more important for the worker to realize the situation than for the employer. His livelihood is primarily at stake.

"To bring home to every person engaged in industry in the United States these facts, the Board of Directors of the National Association of Manufacturers has initiated a campaign of education, in which we invite cordial co-operation and help. Not a trace of politics will be allowed to enter into this constructive work."

The politicians and agitators who have been at-

tempting to humiliate, harass and embarrass American business men should be rebuked by public opinion. There should be no backfire in America today. The time for internal strife has passed. It is essential to the progress and prosperity of the nation that it should stand united in the great trade struggle that will follow the close of the European war.

FOUNDER OF DEMOCRACY NOT A FREE-TRADER.

LET the Democratic party get back to its moorings. There is scarcely a Democrat in public life who does not maintain that the Democratic party draws its inspiration and the very breath of its life from the precepts of Thomas Jefferson. Yet Thomas Jefferson believed in an adequate army and navy. He believed in simplicity of government and freedom from direct taxation. He came ultimately to believe in a protective tariff doctrine.

It has been frequently stated that Jefferson was converted to the policy of protection after the War of 1812. Letters written by him after his retirement from the Presidency are replete with arguments in favor of the protective tariff as a means toward building up home industries and making the nation independent of foreign countries, but even before his retirement President Jefferson espoused the doctrine of a protective tariff. It was in his second inaugural address that President Jefferson wrote:

The suppression of unnecessary offices, of useless establishments and expenses, enabled us to discontinue our internal taxes. These, covering our land with officers and opening our doors to their intrusions, had already begun that process of domiciliary vexation which, once entered, is scarcely to be restrained from reaching successfully every article of property and produce. If among these taxes some minor ones fell which had not been inconvenient, it was because their amount would not have paid the officers who collected them and because, if they had any merit, the State authorities might adopt them instead of others less approved. The remaining revenue on the consumption of foreign articles is paid chiefly by those who can afford to add foreign luxuries to domestic comforts, being collected on our seaboard and frontiers only, and, incorporated with the transactions of our mercantile citizens, it may be the pleasure and the pride of an American to ask, What farmer, what mechanic, what laborer ever sees a tax-gatherer of the United States? The contributions enable us to support the current expenses of the Government, to fulfill contracts with foreign nations, to extinguish the native right of soil within our limits, to extend those limits and to apply such a surplus to our public debts as places at a short day their final redemption.

Jefferson's influence was not lessened in his retirement from public life. Like Washington, he rejected a third term, although the legislatures of five States requested him to be a candidate. Madison and Monroe, his immediate successors—neighbors and devoted friends, whom he advised in their early education and led in their mature years—consulted him on all great questions, and there was no break of principles in the twenty-four years of the "Jeffersonian system."

Thus it is interesting to note that even in those early days, before other countries had developed tariff laws into a protective science, James Madison, under the influence of Jefferson, wrote in 1815:

In adjusting the duties on imports to the object of revenue, the influence of the Tariff on manufacturers will necessarily present itself for consideration. However wise the theory may be which leaves to the sagacity and interest of individuals the application of their industry and resources, there are in this, as in other cases, exceptions to the general rule. Besides the condition which the theory itself implies of a reciprocal adoption by other nations, experience teaches that so many circumstances must concur in introducing and maturing manufacturing establishments, especially of the more complicated kind, that a country may remain long without them, although sufficiently advanced and in some respects even peculiarly fitted for carrying them on with success. Under circumstances giving a powerful impulse to manufacturing industry, it has made among us a progress and exhibited an efficiency which justified the belief that with a Protection not more than is due to the enterprising citizens whose interests are now at stake, it will become at an early date not only safe against occasional competition from abroad, but a source of domestic wealth and even of external commerce.

In selecting the branches more especially entitled to the public patronage the preference is obviously claimed by such as will relieve the United States from a dependence on foreign supplies, ever subject to casual failures; more articles necessary for the public defense or connected with

the primary wants of individuals. It will be an additional recommendation of particular manufactures where the materials for them are extensively drawn from our agriculture and consequently impart and insure to that great fund of national prosperity and independence an encouragement which cannot fail to be rewarded.

What excuse is there for the Democratic party of today to set up the claim that it draws its inspiration from Thomas Jefferson when the party in power sets its face not only against the lessons of the European war and the lessons of American industrial history, but also against the teachings of the founders of the party?

WASHINGTON ON PREPAREDNESS AND ITS RELATION TO MANUFACTURERS.

[Columbia (S. C.) State.]

OPponents of "preparedness" who are fond of quoting Washington will derive small satisfaction from reading the message he delivered in person to both houses of Congress in the Senate chamber January 8, 1790. The President, after congratulating Congress on the accession of the important State of North Carolina to the Union, and on the prosperous aspect of American affairs, proceeded to recommend certain great features of legislation to the especial consideration of the lawmakers. Mark this paragraph:

"Among the many interesting objects which will engage your attention, that of providing for the common defense will merit your particular regard. TO BE PREPARED FOR WAR IS ONE OF THE MOST EFFECTUAL MEANS OF PRESERVING PEACE. A FREE PEOPLE OUGHT NOT ONLY TO BE ARMED, BUT DISCIPLINED; TO WHICH END A UNIFORM AND WELL-DIGESTED PLAN IS REQUISITE; and their safety and interest require that they should PROMOTE SUCH MANUFACTORIES AS TEND TO RENDER THEM INDEPENDENT OF OTHERS FOR ESSENTIAL, PARTICULARLY FOR MILITARY, SUPPLIES."

Washington suggested for their consideration, as connected with this subject, "a proper establishment for the troops," and the indications of a hostile temper given by several tribes of Indians were cited as admonishing the nation of the necessity it would at all times be under of affording protection to the frontiers and of punishing aggression.

Arthur Morris of New York city, founder of the Morris system of industrial banking, made a telling point in this relation when he said at a dinner in Columbia Wednesday evening that citizens who condemned the President for not plunging the country into war with a power of the first class because of the Lusitania incident might well ponder the fact now in course of demonstration, that we are not prepared even to punish a bandit who infests our frontier. And Mr. Morris, by the way, is a Republican.

While Washington believed in military preparedness, he also recognized the importance of promoting such manufactories as tend to render them independent of others, "for essential, particularly for military, supplies." Under this heading would come iron and steel and nitrates, and explosives and sugar and dyes and a thousand other things which now enter into military supplies, as well as into all the activities of trade and commerce. The way to "promote" such industries is through adequate protection justifying American capitalists in building and maintaining plants for their production.

PEACE AND QUIET FOR TRAVELERS.

THE efforts of the Southern Railway Company to reduce to a minimum all noise around its passenger trains will be generally appreciated and must elicit the hearty approbation of its patrons. It began this work a year ago with the object of avoiding unnecessary noises likely to disturb passengers in sleeping cars placed at stations for occupancy during the early hours of night, but the campaign is to be extended so as to environ all passenger trains, whether in motion or otherwise, with as much quiet as possible both day and night. An attempt will be made to eliminate the giving of signals to engineers by word of mouth, unnecessary whistling, ringing of bells and escape of steam near passenger trains, also loud talking by employes in or about cars and on platforms and the slamming of doors. Personal attention to this matter is being given by the division superintendents of the system in the hope of contributing more to the comfort of travelers.

Everyone, but especially those who travel much, will welcome the endeavors of the Southern Railway to confer this boon of quiet upon the public.

The Swelling Southern Chorus for Protective Tariffs

[The most significant trend of economic thought which the country has seen in half a century is the movement in the South in favor of developing our industrial interests by an adequate protective tariff. From week to week of late the Manufacturers Record has been publishing extracts from the foremost Democratic papers of the South in which a straight-out protective tariff is being aggressively advocated in many cases. No more significant statement of the turn of Democrats to a protective tariff has lately appeared than an editorial from the Houston (Tex.) Post, published on this page. The rankest free-trade papers can afford to turn to protection under such leadership in their own party as the Houston Post. The free-trade politicians must take to cover or come out openly for protection.—Editor Manufacturers Record.]

Democracy and Protection.

[Houston (Tex.) Daily Post.]

A Washington dispatch to the New York Herald conveys the interesting information that Democratic members of the Ways and Means Committee have been more or less agitated over the question of building up a dyestuffs industry in this country. It is said they would like to assist this industry, but fear they will be accused of turning protectionists. So they are seeking light from the President.

Discarding theories and speculation and getting down to the situation as it exists, it is as plain as can be that only through protection can a dyestuffs industry be created in this country. Under normal conditions, it is utterly improbable that this country can compete with Germany in the making of dyestuffs. We had such an industry once and the German product killed it.

If the Democrats decide to encourage an American dyestuffs industry, protection will have to be resorted to, and very likely the same is true of potash and nitrates, if not other articles of necessity.

So far as we can see now, to overcome the embarrassments we suffer and must suffer with Germany at war and lacking control of the sea, we must resort to protection, and the Democrats must decide whether they are willing to wink at protection for some industries and refuse it to others.

Not only that, we think it will have to be promptly decided whether steps shall be taken to create industries upon whose products other great industries depend. Shall we provide for high-priced dyestuffs all the time or decide to do without them when events close the door of Germany to us?

The Democrats cannot consent to the bestowal of protection without having it said of them that they are protectionists. They may explain, of course, that they are protectionists only in a limited sense, and only where it is necessary to safeguard the general welfare in the event of war, but when they provide for the creation of industries to provide dyestuffs, potash, nitrate, chemicals and other products, they must realize that the door will be open and other industries will demand similar favors.

In some respects the question is at least debatable, and no doubt our postbellum readjustments will present many other questions which involve a reversal of party doctrines—not only for Democrats, but all parties. They will have to be cautiously considered, because the new conditions which will surround all industry and commerce cannot be ignored. As has often been said since the war began, its conclusion will leave us a new world to which all the nations—belligerents and neutrals alike—will have to adjust their affairs, and perhaps in a more far-reaching way than granting protection to an industry it is proposed to foster.

The Democratic party, it must be said, has altered its faith in so many respects that if Jefferson and Jackson were to return now they would scarcely recognize it. Its trend toward centralism, its waning fidelity to the representative system they created, its restrictive attitude toward individual liberty, its abandonment of the old-time view of frugal and simple government are but a few of the changes which have occurred.

In view of what has taken place in the party of Jefferson, one might well ask, what would a change to modified protection amount to compared with the abandonment of the great ideals that made the Democracy distinctive?

Protection to Dyestuffs Industry Desirable.

[Charlotte (N. C.) Observer.]

The anti-dumping bill over which President Wilson and Leader Kitchin yesterday held a conference is nothing other than a protective tariff under another name.

And what is more, it will serve all the purposes as well as if written into the tariff law. Under its operations goods of foreign manufacture could not be sold in this country at a price below that prevailing in the markets of the producing country. It would largely remedy a condition against which previous tariff laws have been more or less impotent and in the very nature of things would tend to settle the ever-recurring agitation of the tariff question. It would give particular protection to the dyestuffs industry and encourage the investment of capital in a direction toward which American investment has long been too indifferent, to an opportunity long overlooked.

The anti-dumping law is merely another and a new form of Democratic protection, and the Democratic party ought to have the backbone to call it such. But under that or any other name it will be calculated to rob the Republican campaigners of much of their old-time familiar thunder.

Tariff Is Essential.

[Atlanta (Ga.) Constitution.]

Criticising the Democratic majority in Congress for its inaction in the face of one of the most serious industrial crises that has ever confronted the United States, Dr. Charles H. Herty, president of the American Chemical Society, pointed out in an address to the Southern cotton mill men here yesterday the dangerous aspects of the alarming dyestuff shortage in this country. The Constitution reproduces today a synopsis of Dr. Herty's address, which carries a message of national import.

To build the dyestuff industry in this country in all of its ramifications, which requires both time and vast expenditure, the American Chemical Society, a non-partisan organization, headed by a loyal Democrat, has pointed out the legislative needs which Congress alone can supply. These are a reasonable tariff, an "anti-dumping" clause to prevent foreign competition, and, finally, a non-partisan tariff board to which should be left the question as to the tariff needs of the industry with the proposal of ultimate removal of the tariff altogether as soon as it is upon its feet and able to cope with any sort of foreign competition.

The program upon the face of it is a fair one. But more than that, it is essential. The situation has been canvassed from one end to the other, and the legislative request has been written down to a minimum.

But Democratic leadership in Congress, while recognizing the principle of it by offer of compromise, professes to balk at the "protective tariff" idea, simply because it happens to mean protection. It seems to avail nothing that protection in this case would not and could not affect the ultimate consumer, proof of which lies in the fact that it costs about one and one-half cents to dye a dozen pairs of socks, and but little more than two cents to put the fast colors into a \$25 suit of clothes. The consumer would be unable to note the difference in his bill.

If under circumstances such as these a moderate amount of protection is essential to the development of and industry upon which, as Dr. Herty shows, millions of laborers are ultimately dependent for their living wage, the spirit that balks at it because of a fixed idea is simply inconceivable.

Do Democratic Congressmen propose to blind themselves to the danger that confronts the wage-earner in thousands of industries, because a temporary tariff may add a cent and a half to the price of a dozen pairs of socks or two cents to a suit of clothes?

American dyestuff supplies will be exhausted by January 1 next. It will take more than eight months to get ready to make them in anything like the quantities needed. We do not know what conditions are going to confront us when the war closes. Germany may put an embargo on the exportation of dyestuffs altogether,

until she re-establishes her own industries. This has already been agitated in the empire. Then she may plan to flood this country with dyestuffs to win back her trade in that product against any possible American competition.

Not only must we have the dyestuffs, but we must be prepared to meet and cope with these conditions. Under present laws the situation is hopeless. We can neither get the dyes we need, nor can we hope for a moment to compete with Germany in their manufacture.

Protective Tariff a Common-Sense Proposition

[Augusta (Ga.) Chronicle.]

As is well known, the cotton manufacturing industry of the country has been squarely up against the dyestuffs problem almost since the very beginning of the European war.

Having depended upon Germany so long for our dyestuffs, we neglected to build up a dyestuff industry of our own; hence when war shut off the German supply, our American cotton mills were well-nigh helpless.

We generally learn something from the obstacles that we encounter, and the thing that American cotton-mill managers have learned is this: That they must go to work to build up a dyestuffs industry in this country at once; in fact, they have already started at it. But they realize that, just as soon as the war is over, Germany will invade the American market and, with her longer experience and lower cost of production in the dyestuff industry, will undersell and cripple the American makers of dyes.

So at their meeting in Atlanta the other day, the American Cotton Manufacturers' Association unanimously passed a resolution urging Congress to pass an emergency tariff act placing a protective import duty on dyestuffs. It is a "protective tariff" proposition pure and simple, and there is no beating about the bush in it; the cotton manufacturers say it is necessary for the growth and prosperity of the American cotton-milling industry to build up an American dyestuff industry along with it, and they don't want Germany left free to crush such an industry while it is being established.

There is no doubt about what the cotton-mill men mean—they want "protection." Not tariff for revenue, or incidental protection, but a protective tariff that will stand between this infant dyestuffs industry and Germany while the former is getting its growth.

Which, when you leave politics out of it, seems to be a common-sense sort of proposition, doesn't it? In fact, it is the very way most American industries got their start and grew to big things; at least, those that had to come into competition, at the very outset, with longer established and more cheaply operated European industries of the same kind.

But the trouble is, and has always been, that so few of them ever want to see this "protection" taken away from them even when they no longer need it. Only for this, the American people might have been able to take a far more common-sense view of the tariff question, and, instead of permitting it to be made a political party question, insist that the tariff be taken out of politics and turned over to a special board, which shall adjust it to the needs of the country, whether this means "protection" where it is needed or "free trade" where it is not.

Democratic Leaders Should Get in Line.

[Washington (D. C.) Post.]

The protective tariff doctrine is making headway in the South. At the recent annual convention of the American Cotton Manufacturing Association in Atlanta practically every speech had in it a note of precaution

against what the future may bring forth. While the cotton men were not pessimistic, but instead recognized that the present wave of prosperity is widespread and that the cotton industries are reaping their share of the benefits, they admitted that following peace in Europe there will be ruthless European competition which will be little short of ruinous in some lines of the cotton industry if the present tariff conditions continue.

The convention expressed its earnest wish that Congress should enact a protective tariff on dyestuffs which would permit the development of dye industries in the United States, and later went on record as favoring a protective tariff to prevent America being made a dumping-ground for European cotton goods at the close of the war.

The report of the committee on tariff legislation declared that the existing tariff has already demonstrated its "inefficiency as an income-producing measure, and has demonstrated that its schedules are unreasonably and ruinously low." The committee's report predicts that at the close of the war Europe will look to America to take her goods, and if not prevented will see to it that America does take them at such prices as will be ruinous to American industries.

With the South lined up for protection, all that is needed to make it unanimous is the conversion of Democratic leaders who are not in harmony with their followers.

"Democrats Will Have to Endorse Principle of Protective Tariff."

[Athens (Ga.) Banner.]

The Democrats may be brought face to face with a proposition that will tax their ingenuity to settle without going against the well-established tariff ideas of the party. The German dyestuffs cannot be secured now, and the problem is how to establish industries in this country to manufacture dyes. That such can be done there is no doubt, but the capitalists are unwilling to embark in this field unless they can be assured that the Government will protect them against German competition in the future, when the big war is over and German dyes are again put on the market.

The Government cannot give this protection without putting on a tariff that will effectually shut out the German product or at least compensate the American manufacturers to an extent that will enable them to compete with the Germans. If the Democrats give this assurance they will have to endorse the principle of protective tariff.

Quite a pressure is being brought to bear on the dominant party in Congress to get it to depart this once from its tariff ideas and save the day for the American manufacturers. It is an interesting question, and will no doubt bring on considerable discussion.

[It certainly will, brother. In fact, it has already brought on "considerable discussion," and from all parts of the South there are heard demands that the question of the tariff be faced squarely and decided on its merits, not in accordance with the theories of free-trade politicians. The country is at heart for protection, and the business men of the South, the men in industries, the men who are bearing the burden of Southern development, know that protection is absolutely essential to continued progress and prosperity, and that with the ending of the war the very existence of many lines of industry will depend upon a protective tariff. The people are becoming aroused; let the spokesmen of the dominant party South take the hint.—Editor MANUFACTURERS RECORD.]

Did Federal Reserve System Exhaust Creative Powers of Democracy?

[New Orleans (La.) Times-Picayune.]

The struggle between the Senate and the House of Representatives over the sugar duty is unimportant in one sense, but extremely important in another. The House desires to retain the duty indefinitely, while the Senate's finance committee has reported in favor of retaining the duty till May 1, 1920, after which date it would lapse, in the absence of positive action.

Now nobody can know which party will control Congress four years hence, nor is it possible to say whether a sugar duty will or will not then be a plank of the Democratic platform. In the latter case, it will be

easy enough for the Democrats to repeal the duty, and nothing is to be gained by repealing it so far in advance. But much may be lost by the attempt to play with the future. Wise politicians never keep too many irons in the fire, and the Democracy has issues enough, without creating more or less academic ones at this juncture.

And, as a matter of fact, there is good reason to suppose that the Government will need every dollar it can lay its hands upon throughout the twentieth century. If free-trade England raised millions by means of a sugar duty during a period of profound peace, why should not the United States pursue the same policy during a period when peace is bound to hang by a hair? And does not the record show that a sugar duty was the mainstay of Democratic budgets in the days when men like Jefferson, Jackson and Walker dominated the party's councils? Why, then, should the tradition be reversed at a time when a maximum revenue is sure to be essential?

These questions answer themselves. It is well to look ahead, but a party should not lightly break with its past. Nor is it fair to hold the possibility of free sugar over the industry, thus impairing the credit of producers. Such procedure could be justified only by the knowledge that the Government would have more money than it knew what to do with on the day fixed by the Senate's finance committee. As well might it be imagined that Congress would meanwhile cut the pension roll in two, abolish the franking privilege and do a dozen other revolutionary stunts in the taxpayers' interest.

"Let well enough alone" should be the watchword of a party which has the stiffest kind of a fight to face next November. The Republicans cannot challenge the retention of a revenue duty on sugar, since they would make the duty distinctly protective if the decision rested with them. Nor will the average Democrat challenge the retention of the duty when he knows that every dollar thus obtained will be needed, even if the yield of the income tax be increased by raising the rate and lowering the exemptions. True statesmanship consists in constructively dealing with facts as they arise, whereas the demagogue destroys for the pure fun of the thing. The party which had the wisdom to create the Federal Reserve system should not invite the belief that its constructive powers were exhausted by the effort to put our finance upon a scientific and, therefore, unassailable basis.

Preservation of Life and Home the First Law of Intelligence.

S. A. JONES, Waynesville, N. C.

I congratulate the MANUFACTURERS RECORD on its stand for the protection of the homes of the South, and for the passage of laws to encourage capital to come here and develop our resources and employ our labor.

The European war is slowly, but surely, forcing open the mines of the South again, because the war is shutting off imports of ores coming here as free ballast from foreign lands.

The blasts in the mica mines are multiplying daily, and prospecting has been resumed. Only last week this encouragement caused a deposit to be found here in Jackson county, perhaps the largest and finest that has ever been located in this section of the country. Blocks of mica are being lifted out, cutting clear crystal sheets as large as 8x10 inches, worth \$7.50 to \$8 the pound. That is what closing imported mica out of America is meaning to this mountain section. Activities in other minerals in vast deposits were turned idle years ago, along with millions of dollars of invested capital, and thousands of men, when these minerals were put on the free list by the political party in power, and they have remained idle ever since.

Capital would resume work, resume the employment of thousands of men in this section, if it believed that when this war is over the free ballast door would not be reopened to make America the dumping-ground of the product of pauper labor worked in the mines of Europe.

The men of the South and of the nation who earn their living by the sweat of the brow in the mines, in the mills, in the factories, on the farm, on the railroad, on the ships, are beginning to realize that they cast 75 per cent. of the vote that elects the men that have

been making the industrial laws of the nation. The toiling masses that are creating the wealth of the nation are intelligently and certainly realizing that self-preservation of life and of home is the first law of intelligence, and throughout the South the working people are beginning to demand that business men shall be sent to Congress and to the State Legislatures to protect their homes, to protect the opportunities of their children in securing employment to earn an honest living.

Keep up your good work. I am a Democrat, a life-long one, and will always be one that believes in protecting the homes of our people and protecting capital and giving honest labor opportunity.

The old principles of free trade have held the South back half a century or more from keeping pace in resource development and manufactured industries with the other parts of this nation.

Congress Should Act on the Dyestuff Crisis.

[Atlanta (Ga.) Journal.]

The handicap which America's textile industries have suffered for the past year through the ever-dwindling supply of dyestuffs has become critical. Billions of capital and millions of laborers are threatened with disaster; * * * they are face to face with an alarming crisis. A situation that affects so many people, so many important interests in every part of the Union, and so far-reaching a field of the nation's economic life demands prompt treatment at the hands of Congress. * * *

Such legislation can be passed by a Democratic Congress without in any wise violating Democratic principles regarding the tariff, because this is an emergency case and demands emergency measures. Bills to this end are now before the Ways and Means Committee of the House. They ought to be given a chance. If they are defective, let better substitutes be brought forward. In any event, Congress should take prompt and adequate steps to relieve a situation which is one of the gravest American industry ever faced.

Tariff a Necessity.

[The Radford News, East Radford, Va.]

The MANUFACTURERS RECORD keeps up its propaganda for a protective tariff. We concede the necessity of a tariff, so long as we raise a revenue by that means, which shall insure those things which we do not now produce, and the need of which we have so sorely felt since the war in Europe has cut off our supply.

In the imposing of a revenue tariff there must inevitably be an incidental protection, and a non-partisan tariff commission should fix the schedule, with due reference to the differences in the cost of labor, so far as that can be determined.

B. T. U. Standard for Gas.

Tampa, Fla., April 7.—[Special.]—The eighth annual convention of the Southern Gas Association closed here today, after a three days' session. Over 200 members were in attendance. The next convention will be held in Roanoke, Va., during April of 1917.

The Southern Gas Association is composed of gas-plant owners, superintendents and appliance men, and embraces 10 Southern States. Several important sessions were held during the first two days of the meeting, which were interspersed with social features.

Matters of general and technical interest were discussed at the meeting. Among those reading papers were W. J. O'Rourke of Jacksonville; S. P. Vecker, Key West; Tully Wilson, Brooklyn, N. Y.; W. L. Noble, Montgomery, Ala.; E. E. Bair, Hanover, Pa., and A. F. Kersting, Mobile, Ala.

One of the important discussions of the meeting was that regarding the adoption of the British thermal unit as a standard of the quality of gas instead of the present candle-power standard, and the association went on record as approving the British standard.

Roscoe Nettles of Tampa was elected president of the association, and E. D. Brewer, Atlanta, was re-elected secretary.

Cotton Manufacturers Urge Imperative Need for Adequate Tariff Laws

PROTECTION FOR DYESTUFFS INDUSTRY AND ANTI-DUMPING LEGISLATION
BOTH NECESSARY PROTECTION TO COME FIRST.

[Special Correspondence Manufacturers Record.]

Atlanta, Ga., April 10.

The imperative need of prompt, favorable action by Congress on a tariff bill sufficient to permit the creation of dyestuff plants to supply the American market, as well as the vital necessity for a reasonable tariff that will protect the American textile industry and an anti-dumping clause that will prevent the flooding of our home market with foreign dyes and textile goods at the close of the European war and throw many of our textile mills into stagnation or distress, were the keynotes of the American Cotton Manufacturers' Convention in Atlanta last week.

These subjects were clearly and forcibly presented by the leading men of the industry, who have realized that unless action along these lines is taken by Congress the textile industry of America will find itself in distressing condition shortly after the war is over.

It has been pointed out that never before in the history of the country have wages reached such a high point in this country and such a low point in Europe. Consequently, with the close of the war there is bound to follow an influx of foreign cotton goods made with low-priced labor that will completely upset the American market, and unless proper steps are taken to prevent this, almost irreparable injury will be done to the cotton industry of this country and distress brought upon the hundreds of thousands of employees dependent upon such plants for work.

The dyestuff situation was presented to the cotton manufacturers in an unusually clear and able manner by Dr. Charles H. Herty, president of the American Chemical Society, and a man who has made the closest possible study and analysis of the situation. A synopsis of Dr. Herty's paper was published in the MANUFACTURERS RECORD of last week.

Following a discussion of this paper, Mr. W. A. Erwin, secretary and treasurer of the Erwin Cotton Mills Co., West Durham, N. C., and a former president of the association, introduced the following resolution, which was adopted unanimously:

Whereas, the shortage of synthetic dyestuffs resulting from the cessation of the foreign imports during the past year has seriously handicapped and now threatens our industry; and

Whereas, we deem it essential that we be freed as promptly as possible from our dependence upon any foreign nation for our supply of synthetic dyestuffs; therefore, be it

Resolved, That this convention expresses its appreciation of and most heartily endorses the program of legislation outlined in the address of Dr. Charles H. Herty, president of the American Chemical Society, before this association today; and be it further

Resolved, That a committee be appointed, consisting of the president of this association and two members of its board of governors, to present in person these resolutions to the appropriate committee of the United States Senate and the House of Representatives, urging that in our behalf they give prompt and favorable consideration to such legislation and especially to the enactment of the tariff rates recommended by the New York section of the American Chemical Society which will insure prompt expansion of the domestic dyestuff industry; and be it further

Resolved, That we consider such tariff legislation as an emergency measure which should command the support of all members of Congress, regardless of party affiliations; and be it further

Resolved, That we heartily endorse, commend and appreciate the efforts of the present National Administration to create a non-partisan tariff board looking to the adjustment of our national laws to the general good of the American people.

The association also decided to reprint Dr. Herty's paper and send a copy to every Congressman.

In the course of his remarks Dr. Herty pointed out that positive assurance was given Congress at the hearing of the Hill bill that abundant money was ready to start at once upon the construction of American dyestuffs plants, just as soon as Congress enacted legislation that would protect them against foreign-dye stuffs, but they could not put their investments into such

jeopardy as would be present without such tariff legislation.

Another important point brought out in the discussion was that if America has no dye-making plants at the close of the war it would be very probable that European interests would withhold dye supplies from the textile mills of this country until their own textile mills are able to regain the world trade they have lost, and thus would have us completely at their mercy.

On the other hand, by providing a tariff that would enable us to build our own dye-making plants, we would be independent of European supply and better able to hold the position our textile trades have won in the world's markets.

It was also strongly emphasized that an anti-dumping clause alone will not suffice or make possible the creation of dye-making plants in this country. A proper tariff is absolutely essential and must come first to assure and safeguard those who are ready to put their money into such an industry. The anti-dumping clause, it was shown, will serve later to prevent the wholesale dumping of European dyestuffs in this country after the close of the war, to the demoralization of such plants as may have started under a protective tariff. One is as necessary as the other, but it is especially important that a tariff on dyestuffs be provided first.

Bearing upon the anti-dumping clause, the following resolution, introduced by President John A. Law, was adopted:

Whereas, it is the consensus of opinion of cotton manufacturers in convention assembled that any "anti-dumping" legislation is simply a makeshift and should not be considered as sufficient to supplant an equitable duty on imported merchandise; therefore, be it

Resolved, That the American Association of Cotton Manufacturers express their unalterable opinion that a reasonable tariff for the protection of home industries, notably the domestic dyestuff industry, should be urged upon the Congress of the United States with the addition of an anti-dumping clause calculated only to meet possible future requirements.

The position of the cotton manufacturers in regard to tariff matters and other legislation was strikingly set forth in the following committee report, which was unanimously adopted by the convention:

"We are as yet 'between seasons' as to the ultimate effect the present tariff law will have upon our industry, but it is generally conceded that the law has demonstrated to date its efficiency and failure as a revenue-producing measure, and when we eventually come face to face with its provisions, we feel that it will also be demonstrated that the schedule is unreasonably and ruinously low.

"We must all realize the abnormal conditions prevailing today, and should be careful not to allow our optimism to get the better of our judgment, because of conditions brought about in Europe on account of the war and in our country because of the war.

"Imports, at present, consequently are not excessive, but this lull in imports does not justify us in assuming that we have entirely escaped the possible and probable ravages to be wrought later by the enforcement of the present tariff law.

"Incidentally, and in support of this position, we need only to refer to the imports of cotton cloth alone under the present law for the nine months previous to the war, as compared with the imports under the former law for a corresponding period.

"From November, 1912, to July, 1913, inclusive, under the old law we imported to the value of \$6,176,000, and from November, 1913, to July, 1914, inclusive, under the present law we imported \$10,370,000, an average increase of 69 per cent., and in some cases during this period the monthly increase was 100 per cent.

"In addition to having to contend with this condition, when the war is over our market will very naturally become the dumping-ground for all of Europe; hence, unless Congress enacts promptly some adequate anti-dumping clause, we can only see hopeless disaster to our industry and distress to our operatives.

"The fiercest competition the world has ever known will also then be inaugurated, and we feel that commercial preparedness now is equally as essential to the future welfare of our country as the extreme military and navy preparedness now being so strongly and urgently advocated.

"Along this line a tariff commission is now a possibility,

and while our association is on record, repeatedly, as favoring such a commission—non-partisan in its make-up—it is entirely debatable whether or not such a commission will relieve the situation, but it is really difficult to imagine how the outlook can be made more discouraging, and how an experiment along such lines cannot be more disastrous than the low duties in the present tariff law, as the commission will have no power to make or fix rates, but only to make recommendations, and Congress will continue to make the tariff laws.

"The weak point with us in a tariff commission, however, is, that while we domestic manufacturers will be required to give up our exact cost to manufacture, the commission can only guess at the cost of foreign manufacture, and under these circumstances our 'second state' may be worse than our first. This condition was exactly that experienced by many of us during the life and workings of the last so-called tariff commission or board.

"Our export trade at present is unprecedented, and it would seem that now is the most opportune time in our history for its maintenance, but to accomplish this it is absolutely necessary that we have proper and sufficient transportation facilities, and to this end we again urge, as this association has before urged, the equipment of a merchant marine, private or government owned, as may seem wisest, which will insure the floating of the American flag in every foreign port of the world.

"We must realize here in America that the world is today agitating the subject of straight-out tariff laws to protect their respective trade and industries. After the war we know that we will be on the highest scale of wages ever paid in this country, against which we must compete then with the lowest scale possibly ever known in Europe. How shall the adjustment be made and how shall we be able to equalize these differences are the problems which must be met.

"Germany is adopting the tariff policies advocated by Alexander Hamilton, which are, in turn, the cornerstone and foundation of our Government, and even England, the mother of free trade, is seemingly convinced of the error of this cherished policy and is now demanding 'protection and development' for her industries and the 'fostering and safeguarding' of British trade after the war. In view of these facts and the experience of history, our country occupies the unusual position of tending toward free trade and throwing open wide our markets to the balance of the world.

"Looking ahead, therefore, to the changed condition which we must meet again, sooner or later, it behooves us, in the judgment of your committee, to continue to exert every effort to obtain and maintain for the textile industry a just, reasonable and adequate degree of protection.

"In addition to the tariff, some matters of legislation are now pending of a serious nature and deserving of special and careful consideration by the association.

"The most important is the Keating-Owen Child Labor Bill now pending before the Senate, having passed the House by a decided majority.

"Your committee is of the opinion that this bill interferes with the rights of the States and is therefore unconstitutional, as has been argued—it is far-reaching in the precedent it will establish—it is vicious in its provisions, instigated largely, it is believed by the hired professional agitator; advocated by those wholly unacquainted with conditions; by sentimentalists who refuse to be enlightened; by legislators who decline, free of expense, to make an inspection and investigation of the real conditions existing in cotton mills, preferring, it seems, to convict us, without evidence of truth, as the hydra-headed monsters of child labor and child death.

"You are no doubt familiar with this bill, but if not, a copy is attached which can be read if requested. In the end, it simply provides for an eight-hour day for cotton mills, and in addition, we must compete with foreign child labor, because when the bill was under discussion in the House an amendment was offered proposing to prevent the importation of goods made by child labor of similar age and under similar conditions, which amendment was promptly defeated. Notwithstanding, it was known that in Japan alone 60,000 children under 14 years of age are working 12 hours a day at the average wage of less than 7 cents per day.

"A fight has been made against the bill, but apparently thus far with little success, and we feel that this association should take a strong stand against it. It is not yet too late to defeat it, or to have it materially amended, as recently strong aid has appeared in opposition to it by the Mothers' Congress and the Pennsylvania Juvenile Court and Probation Association, both of which are violently opposed to the measure. It is now in the hands of a sub-committee of the Senate composed of Senators E. D. Smith of South Carolina, chairman; Joseph T. Robinson of Arkansas and Albert B. Cummings of Iowa.

"Your committee urges the members of the association to write at once to this committee in strong opposition to it, but if we manifest indifference and lack of interest, then failure to defeat it will rest largely with the cotton manufacturers themselves.

"It is an old saying that 'everybody's business is nobody's business,' and if we adopt this policy, go home and do not attend to it, then we are sure to have the bill added upon us, with all of the disastrous results which will follow its enactment."

As will be noted in the resolution on the dyestuff tariff, it was decided that the president of the association and two members of the board of governors present the resolutions in person to appropriate committees in the Senate and House of Representatives, and

in addition, all members were urged to get in touch with their representatives in Congress and impress upon them the great need of favorable action in this connection.

A telegram was also sent to the proper committee in Congress requesting that final action on the Keating-Owen Child Labor bill be not taken until the committee or an especially appointed subcommittee personally investigate actual conditions as they exist in the South.

Robert F. Bowe, chairman of the executive committee of the Southern Textile Exposition, Greenville, S. C., briefly outlined the successful textile exhibit held in Greenville last November and stated that an exposition company had been incorporated for \$75,000 and would build an exhibition building containing at least 100,000 square feet of floor space, in order to provide a suitable exhibit hall for the biennial shows of the Southern Textile Exposition.

Following his remarks, Capt. Ellison A. Smyth in-

troduced a resolution congratulating the Southern Textile Association on its Greenville exhibit of last year and pledging the co-operation of the cotton manufacturers in their future efforts.

The following officers were elected for the ensuing year: President, John A. Law, Spartanburg, S. C.; vice-president, Caesar Cone, Greensboro, N. C.; chairman board of governors, Fuller E. Calloway, LaGrange, Ga.; members of board of governors, John O. White, Gastonia, N. C.; L. D. Tyson, Knoxville, Tenn.; Alex. Long, Rock Hill, S. C.; John W. Arrington, Greenville, S. C.; Geo. W. Fraker, Spray, N. C., and J. T. Broadbent, 320 Broadway, New York city.

This was one of the most important and largely attended meetings in the history of the Cotton Manufacturers' Association, about 800 members and guests being present, and every possible courtesy and hospitality was extended to the visitors by the Atlanta Convention Bureau, which acted as host.

Strengthen Industrial Defenses Through Intelligent Tariff System

[Under the title, "The War Must End—Then What?" the Youngstown Sheet & Tube Co. of Youngstown, O., published in a full-page advertisement in the Manufacturers Record, April 6, a ringing call to the American people to thoughtfully consider steps that must be taken regarding our tariff laws if this country is to be prepared industrially to cope commercially with European nations after the war. This is a good illustration of intelligent, thoughtful advertising, and as such is reprinted herewith in full.—Editor Manufacturers Record.]

The war in Europe cannot last indefinitely. It may end in a short time.

Our far-seeing President is convinced that peace in Europe may mean war on America. With vision extended by confidential reports from our ambassadors at every court in the Old World, he believes that peace with honor may soon be impossible for the United States.

Does President Wilson see also another and surer menace to America that must follow the war? In addition to the smoke of hostile battleships just over the horizon, does he sense with prophetic vision an European attack upon our defenseless industries? Is he convinced that, while armed invasion may be possible, economic invasion is certain?

Apparently so; for President Wilson has endorsed the suggestion that a non-partisan tariff commission be created.

There may be room for an honest difference of opinion as to the necessity for a larger army and a more efficient navy, but there can be no question regarding the necessity for industrial preparedness. Those of us who prefer peace at any price may contend that we have ships and soldiers enough. But there are none who prefer panics and industrial paralysis to prosperity and business activity.

War prevented industrial ruin in this country by bringing commercial ruin upon all Europe. Almost overnight it made eager customers of many nations which had been active competitors in our markets.

The war halted a business depression that began with the adoption of the Underwood tariff law. That law, which is still in force, caused such industrial stagnation as to make the year 1914 one of unhappy memory. Under ordinary conditions this country would now be suffering from a panic instead of enjoying unusual prosperity.

Under the present system no change can be expected in our tariff schedules except the substitution of rates even more crude and illogical than those of the Underwood bill.

So long as the tariff remains a party issue—so long as schedules are framed in accordance with the desires of any party, or any locality, or any industry—so long will such schedules be wrong.

History justifies this assertion. We have never had a really equitable and efficient tariff law. Customs duties in general have been always either too high or too low, and the schedules marked by glaring inconsistencies. Every tariff bill enacted has been followed by a period of depression or of an era of over-expansion.

Undoubtedly this has been due as much to lack of

intelligence in handling the problem as to the impossibility of any political party viewing the question from the standpoint of the whole people.

Framing a just and efficient tariff law is a task demanding a high degree of special skill and knowledge, impossible in a committee selected for the emergency from among the members of any Congress.

Such a task should be delegated to men whose ability, integrity and opportunities for study of the question will remove it from the baneful influence of partisanship, selfishness and ignorance.

It may be taken for granted that American labor desires and has the right to live upon a social plane higher than that occupied by labor in the Old World. If it is to do this our markets must be protected by a just and efficient tariff.

An emergency equal to the present has occurred but once in our history, and from it the first protective tariff was born.

In the beginning our tariffs were designed only to produce revenue. The country was then practically without manufacturing industries. During the Napoleonic wars in Europe, conditions similar to those at present led to the development of production in numerous lines. After the fall of Napoleon, Europe, which had been paralyzed by twenty years of war, recovered swiftly and this country was deluged with products from across the sea. American industries sickened and died. Even agriculture, deprived of its home markets, languished. By 1820 the country was suffering from the worst panic in its history. In that year the first protective tariff bill was presented to Congress, hotly debated and laid on the table. Conditions grew worse, and in 1823 another bill was presented to Congress.

This tariff bill was referred to the Committee on Manufactures, instead of to that on Ways and Means. Thus the tariff ceased to be merely a revenue expedient and became a political issue. It has been since returned to the Committee on Ways and Means, but it remains a political issue and will so remain until it is given over to a tariff commission.

For almost 100 years the tariff has been a football for politicians and selfish interests. We have repeatedly seen how costly has been this method of handling this great question, and how eagerly Europe has embraced every opportunity to flood this country with her products. Is it not time we adopted a sane method of forming our tariffs?

What will follow the war if our industrial defenses are not strengthened can only be surmised. There is every reason to expect that economic invasion of this country will be swift and certain. American markets will offer peculiar temptations to impoverished Europe.

Money will be sought here to carry the huge burdens left by the greatest struggle in history.

We bring this matter to the attention of the public in order that interest may be aroused in the greatest problem of the hour. We urge upon the American people, now enjoying unexampled prosperity, the necessity of thought for the years to come.

In this way we seek frankly to foster a nation-wide sentiment in favor of the creation of a tariff commission on non-partisan lines. We favor a commission so constituted and protected as to surround the tariff, so far as may be possible, with the same safeguards provided for our judiciary, protecting it alike from partisan zeal, sectional selfishness and commercial greed.

This commission should be a permanent body, empowered to make such adjustment of rates as the emergency may demand, pending approval by Congress, in order to at all times provide revenue, protect labor and stabilize business. Its powers in this direction should be as great as are consistent with the Constitution.

To remove the tariff from the domain of politics will demand the active interest of every good citizen, together with serious consideration of the great problems involved. Opposition will come from selfishness and lack of understanding. If it is met by earnest interest and the enthusiasm inspired by a sense of patriotic duty, it may be overcome.

If we have contributed in any degree to the proper solution of this, one of the greatest problems ever confronting the American people, the purpose of this announcement is fulfilled.

THE YOUNGSTOWN SHEET & TUBE CO.,
Youngstown, O.

Shipbuilding Inaugurated at Brunswick.

Brunswick, Ga., April 8—[Special.]—Shipbuilding in Brunswick has begun on a modest but ambitious scale.

The Brunswick Shipbuilding Co. was organized by the citizens of Brunswick for the purpose of building wooden ships capable of both domestic and foreign service. The capital stock subscribed was \$50,000, and a charter will be secured just as soon as the necessary requirements of advertising, etc., have been met.

The organization meeting was held on March 15, and Capt. J. H. Leo, a sailor before the mast for 43 years, master of his own boats for 26 years and now retired and living at Brunswick, was elected general manager of the company. Immediately following the organization Captain Leo and his associates secured a tract of land on the waterfront here and within a week the laying of the keel of the first ship was begun.

The vessel has not been named so far, but it will be a three-masted sailing craft, with keel 160 feet, 190 feet over all, 36.6 feet wide, 14 feet depth of hold and will cost approximately \$35,000. The lumber has been secured from Florida, and such equipment as band saws, tools, etc., have been ordered and are now en route here. It is probable that before the present ship is completed that another will be started, as already there have been several applications to charter the new ship as soon as it is completed. About 25 men will be given regular employment as soon as the machinery arrives.

The docks around Brunswick are cluttered with lumber, which is to be shipped North as soon as bottoms can be had to transport it. It is pointed out by local authorities that this situation may be relieved not only by the building of ships to aid in shipping the local products, but that the requirements of the shipyard in itself will constitute quite a market for lumber produced in this section.

The stockholders are very confident that Captain Leo will make a success of the project. Aside from his seafaring experiences, he has superintended and supervised the construction of several ships like the one he is now building. He had charge of the construction of the Thelma at Rockland, Maine, and of the Wm. L. Bradley at Millville, N. J., which were launched within the last decade.

If the conditions warrant, the local company will branch out and not only begin the construction of additional sailing ships at once, but will try its hand at steam-driven vessels.

Baltimore's Great Industrial Progress Typified at Curtis Bay

\$15,000,000 BEING SPENT ON NEW BUILDINGS, EXTENSIONS AND ADDITIONS—10,000 WORKMEN ENGAGED ON CONSTRUCTION WORK—SOME OF PLANTS LARGEST OF THEIR KIND.

By CARROLL E. WILLIAMS.

An important part of the industrial development which is taking place in Baltimore at this time is the activities in the Curtis Bay district. More than \$15,000,000 is being spent in industrial improvements in the vicinity of Curtis Bay, which is on deep water, some seven miles south of the center of Baltimore.

Besides the erection of a number of new and extensive manufacturing plants, many of the older concerns are making important improvements and additions.

Thousands of workmen are employed in construction work, one plant alone in course of construction having 2400 men on the payroll, which amounts to \$40,000 a week.

The attractiveness of the locality for the erection of important industrial plants includes deep-water facilities and ample railroad transportation, and there is also the additional inducement of the industrial tax exemption statute of Anne Arundel county.

The price of land in the section has trebled within a year, and the South Baltimore Harbor Improvement Co., which controls a large part of the land, recently announced that waterfront property is now being sold by the front foot. Within a year about 2000 acres of land have been sold, some of it at ten times the amount at which it could have been purchased a few years ago.

Besides the large amount of land sold as factory sites, a number of tracts have been purchased for use as building lots. Hundreds of houses will shortly be erected for the use of the largely-increased number of workmen which will be permanently employed at the various plants.

As a result of construction activities there is at the present time not a vacant house within a radius of five miles of the Curtis Bay section. Rents have advanced from 25 to 50 per cent. Some of the concerns making improvements have established camps where the laborers live. A number of the men have come from Western States and from Canada to do special work.

In some instances the wages paid are relatively enormous. Some electricians received \$70 a week, carpenters make as much as \$50, and boys out of high school are on the payroll at \$25 a week. Fully 10,000 men are employed.

Traffic over the roads and car lines leading to the section has greatly increased and new thoroughfares are being built.

Herewith is given a description of Curtis Bay developments. The list includes the more important enterprises, with the exception of the very extensive Davison

Chemical Co.'s plant, a description of which appeared in last week's issue of the MANUFACTURERS RECORD.

Curtis Bay Chemical Co.'s Great Plant.

The mammoth plant of the Curtis Bay Chemical Co., subsidiary of the United States Industrial Alcohol Co. of New York, composed of buildings covering over 15 acres, has recently been completed. This plant is situated on Stonehouse Cove Creek, a branch of the Patapsco River, with a natural channel of 25 feet depth. A tract of over 75 acres fronting for half a mile on the creek was purchased by the company from the South Baltimore Harbor & Improvement Co.

The plant consists of eight units known as the vinegar group, that compose the largest plant in the United States for the manufacture of acetic acid from denatured alcohol, and another unit which is a United States Government bonded warehouse for the storage of alcohol. In addition there is another group known as the power-house group, comprising the power-house, neutralizing building, evaporating building, retort building, stillhouse, pumphouse and chemical laboratory.

Work was started on September 7, 1915, on the vinegar group. There are four buildings, each 325x188 feet, two stories high, with two monitors running the entire length of the buildings. Because of the corrosive effect of the acetic acid fumes upon steel, none was used in their construction—a condition to be found probably nowhere else in the country. They have 12-inch hollow-tile walls, with exterior of very pleasing stucco finish. The tile was used in the construction as a non-conductor of heat. Running through the entire length of the buildings is a pit 60 feet wide, with an average depth of 12 feet. An excavation of 20,000 cubic yards was made.

Each building is subdivided into two units north and south of the pit. Each unit contains 120 generators, 10 feet in diameter and 18 feet high; above these in the monitors are 12 supply tanks, and in the pit are 12 tanks into which the finished product is run.

The cement floors of these buildings are 12 inches thick, reinforced both ways with rods. This construction was used in place of footings to take the enormous load from the generators and tanks that were placed upon the floor.

The tanks and generators were installed by Haggerty Bros. of Peoria, Ill. In constructing them about 3,000,000 feet of the best fir lumber brought in 120 cars from the forests of Washington was used. A mill equipped with the most up-to-date machinery was installed on the grounds, and all the lumber was worked there. Be-

sides, 3,500,000 feet of birch was made into shaving for use in the tanks and generators; 750 tons of iron rods were made into hoops for binding. No metal can touch the acid, and for that reason the tanks were made of tongue-and-grooved strips. The seams in the wood were closed with paraffine. They are all placed upon concrete blocks, thousands of these being made on the grounds. The pipes connecting the tanks are also of wood; 75,000 feet of this piping was bought and milled in Cosmopolis, Wash. The valves and faucets are also of wood.

The Denaturing building is 94x120 feet and 30 feet high. This building is also of tile, brick and wood construction, with a stucco finish.

The roofs of these buildings are of Barrett specification on 1½-inch sheathing.

The first building was completed the first week in October and the last in December, three months after operations were commenced.

The power-house group was laid out during September. They are of hollow tile and steel construction throughout, with concrete roofs and stucco finish.

The power-house is 214x50 feet and three stories high. The steel tonnage amounts to 250 tons, furnished by the American Bridge Co. Six boilers of 500 horsepower each were furnished by the Edgemoor Iron Co. Detroit stokers are used. A chimney 200 feet high was constructed by the Alphons Custodis Chimney Construction Co. of New York, and was erected in one month.

The neutralizing building is 89x141 feet, of four stories, with a lean-to two stories high, 103x30 feet on the north of the main building. In this building 332 tons of steel were used. The evaporating building is 101x180 feet, four stories in height, and contains over 350 tons of steel. The retort-house is 112x250 feet and 32 feet high. In the construction of the building 300 tons of steel was used. The stillhouse proper is 51x128 feet. On the north end is a lean-to 85x48 feet. In its construction over 200 tons of steel was used. The pumphouse, a small one-story building 35x46 feet and 18 feet high, contains about 20 tons of steel.

In the operation of the plant 300,000 gallons of water is needed hourly, a total of 7,200,000 gallons every 24 hours. An intake was constructed from the river to the pumphouse. It is 325 feet long, and required a cut averaging 19 feet in depth and 13 feet in width. This was constructed part of concrete and part of 24-inch tile pipes. Two pumps located in the pumphouse distribute water throughout the plant. There is also an auxiliary pump and fire pump located there. A complete fire line has been laid throughout the plant.



GROUP OF BUILDINGS OF THE CURTIS BAY CHEMICAL COMPANY'S GREAT PLANT, ONE OF THE LARGEST

Two steel tanks having a capacity of 100,000 gallons each are being erected.

Connecting the vinegar group with the power-house is a tunnel 1200 feet long, 6 feet deep and 6 feet wide. Through this tunnel are run all the steam and electric lines.

The electrical work, which was done by the J. Livingston Company of New York, required five months to complete. Because of the inflammable material in the buildings, no gasoline torches were used in soldering, electric soldering irons being used exclusively. All the wires are enclosed in pipes.

Material used was as follows: Vulcanite Portland cement, 47,000 barrels; white sand, 2500 tons; concrete sand, 14,300 tons; gravel, 23,000 tons; 12-inch tile, 145,000 square feet; 10-inch tile, 25,000 square feet; 6-inch tile, 103,000 square feet; 3-inch tile, 3000 square feet; structural steel, 2100 tons; lumber, 4,000,000 feet (building); birch for shavings, 3,500,000 feet; Oregon fir for tanks, 3,000,000 feet; common brick, 860,000; fire-brick, 230,000; fire-clay, 70 tons; lime, 110 tons.

During the building operations 4000 cars of material were handled over the Baltimore & Ohio Railroad.

The George A. Fuller Company of New York was the general contractor. Starett & Van Lick were the architects. The following companies were employed in erecting the plant: Baker, Smith & Co., heating apparatus; J. Livingston & Co., electrical equipment; Ehret Roofing & Manufacturing Co., roofs; Edgemoor Iron Co., boilers; Pittsburgh Plate Glass Co., glass; Riggs, Distler & Stringer Company, plumbing; Daniel Shafer Company, stucco and cement work; Haggerty Bros., tanks and generators; Wm. F. Seller; Otto Duker, millwork; Detroit Products Co., sash; McLean Ornamental Iron Co., ornamental work; Alphons-Custodis Chimney Construction Co., chimney; National Fireproof Co. and Whitacre Fireproof Co., tile; James Lumber Co., lumber; Dietrich Bros., American Bridge Co., Structural Steel Co., steel; Detroit Stoker Co., stokers; Allis-Chalmers Company, engines; Cruse-Kemper, steel tanks.

A fine brick mansion on the tract when purchased by the company has been converted into an office. The house, which was a brick structure, has been altered to suit the company's plans and has been well finished throughout. About \$6000 was expended in improving the building. Meals are served here to officials of the company.

Dr. Nelson B. Mayer is representative of the Industrial Alcohol Co. in the Curtis Bay section.

The chemical plant is turning out acetone, a new high explosive that is being used in considerable quantities by the French. The plant is also fitted to manufacture important chemicals formerly purchased from Germany. Five hundred men are now employed, and the plant is being operated day and night.

Largest Industrial Alcohol Distillery.

The plant of the Curtis Bay Distilling Co., controlled by the same interests as the Curtis Bay Chemical Co., will be the largest industrial alcohol distillery in the United States. When completed it will supply alcohol

for use in the manufacture of acetic acid at the chemical company's plant, and a large pipe line will probably be laid under the river to carry alcohol. At present alcohol is being supplied by the various Western distilleries of the Industrial Alcohol Co.

It is hoped to complete the plant before May 1. About 1000 men are now employed there. Twelve buildings, averaging 120x380 feet, and from one to five stories in height, are being erected. They are of steel and concrete construction, with stucco finish. Copper equipment costing thousands of dollars is being installed by the Ansonia Copper & Brass Co. of Cincinnati, O. Many tanks and thousands of feet of copper coil are being installed.

Six Babcock & Wilcox boilers of 500 horse-power each are being installed in the main power-house. In addition, two smaller units have been completed in the pump-house. Two chimneys, 125 feet and 225 feet high, for the pump-house and power-house, respectively, were built by the Alphons-Custodis Chimney Construction Co. of New York.

The waterfront improvement at this plant is the most important in the section. A bulkhead 500 feet in length, of concrete construction, has been completed. The bulkhead is built some distance from the shore, and the intervening water space has been reclaimed. About five acres were formed, dirt from the hilly places on the 12-acre tract being moved to complete the fill. Suction dredges were employed to make a channel 30 feet in depth to connect with the deep-water channel of Baltimore. Not only will the largest tank steamers afloat be able to tie up at the pier, but they will be able to reach it under their own power without the use of tugs.

Upon the completion of the plant a line of six of the largest tank steamers will be operated between the plant and the West Indies and Southern ports. These steamers will be controlled by the Industrial Alcohol Co., and will bring from New Orleans and the West Indies the molasses used in the manufacture of denatured alcohol. It is stated that alcohol can be manufactured more cheaply from molasses than from grain.

Three of the largest tanks ever constructed in this section are being erected near the bulkhead for the molasses. Two are 100 feet in diameter and 50 feet high, while one is 105 feet in diameter and 55 feet high. The first two have a capacity of 65,000 barrels each, the latter of 75,000 barrels. They are built upon solid concrete foundations, and have a steel center post for supporting the roof trusses.

The steamer Currier last week (April 2) brought the first cargo of molasses from Cuba. After unloading, the ship returned for another cargo. It required about three days to pump the molasses from the ship into the large tank. While the plant will not commence operations immediately, a large supply of molasses will be stored for future use.

Standard Guano Co.'s Acid Plant.

Three large fertilizer factories in the vicinity of Curtis Bay are each erecting large acid plants to supply sulphuric acid needed in the manufacture of their prod-

ucts. The first plant is alongside the plant of the Standard Guano Co., on Curtis Creek; the second on the grounds of the Rasin-Monumental Company, on the Patapsco River, and the third at the F. S. Royster Company's plant. Since the beginning of the war, fertilizer manufacturers have experienced great difficulty in securing sulphuric acid because the acid plants are selling the greater part of their output to powder manufacturers, securing from them big prices for the material. At the present time some sulphuric acid is selling for \$40 a ton, which before the war was bringing scarcely \$6. When completed these acid plants will not only have an output large enough to satisfy the needs of their respective companies, but enough will be manufactured to offer a large amount for sale to other consumers.

The improvements at the plant of the Standard Guano Co., will, when completed, have cost about \$750,000. Ground was broken for the acid plant in November, and within a short time it will be placed in operation. The plant consists of a brick and steel structure 417 feet long and 85 feet wide, and 65 feet high. The building is being erected on a tract of 10 acres adjoining the fertilizer plant. The roof and sides of the building are to be covered with asbestos protected metal. This is a combination of steel sheets protected by asphalt and asbestos felt, and is both waterproof and fireproof. It is manufactured by the Asbestos Protected Metal Co. of Pittsburgh. The steel was furnished by the Richmond Structural Steel Co. Whiting-Turner Construction Co. of Baltimore were the builders.

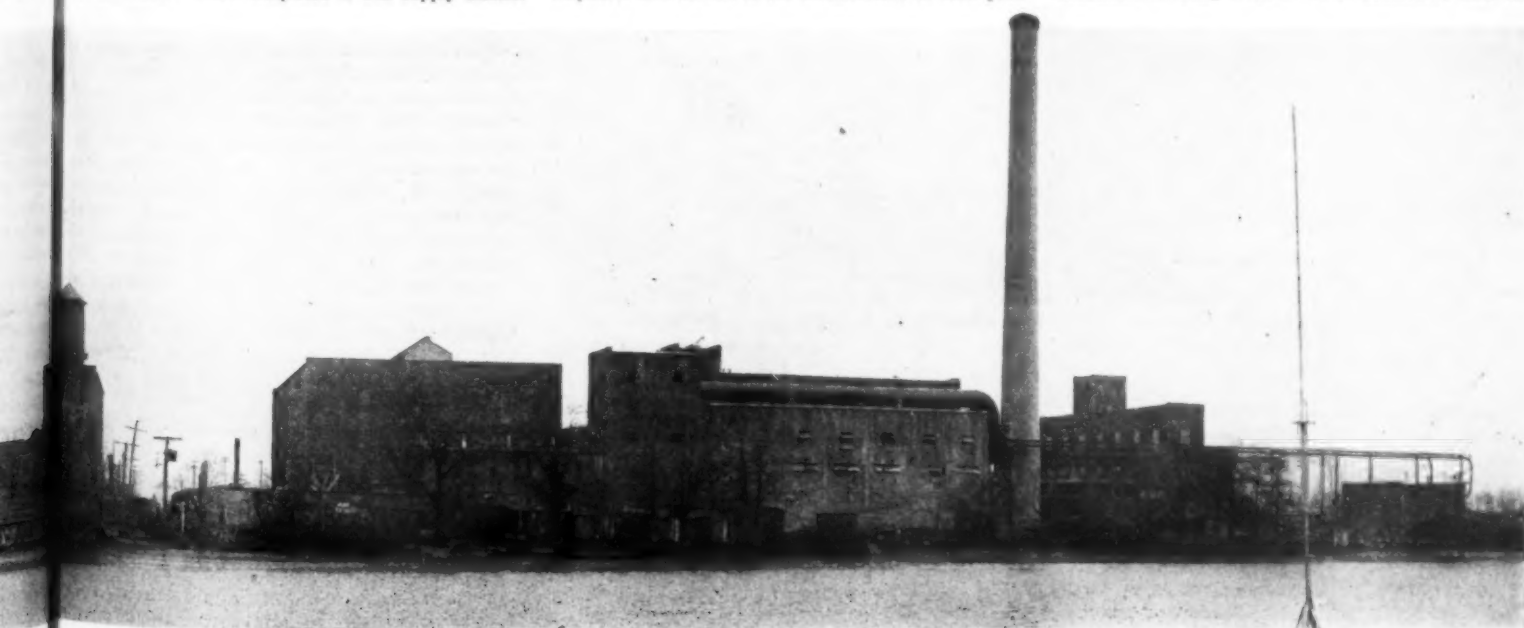
Two sulphur burners and four pyrites burners are to be installed. Southern brimstone rock from Louisiana will be used in the sulphur burners. While the cost of producing a ton of sulphuric acid from brimstone is greater than that made from pyrites, the process is a much quicker one, and this is one of the reasons why the sulphur burners have been installed.

It was announced by George A. Whiting, president of the company, that plans were now under way for the construction of an acid-phosphate plant to have an annual output of 400,000 tons. The company holds an option on 20 acres of land in the Curtis Bay section, but the company is not yet ready to give out the location of the land. It is hoped to have building operations under way by June 1. The acid phosphate will be sold to consumers both North and South. The new plant will be financed by New York and Baltimore capital.

Rasin-Monumental Company's Additions.

Extensive improvements and additions are being made to the plant of the Rasin-Monumental Fertilizer Co. at Seawall. This is a subsidiary of the Virginia-Carolina Chemical Co., with offices in Norfolk, Va. The present plant has an output of 100,000 tons of fertilizer a year.

The additions are being erected on a 10-acre site opposite the present plant of the company, and will be of brick and steel construction and fireproof throughout. An acid plant with an output sufficient to supply the needs of the company and to allow the sale to other consumers is being erected. It is understood that this



GREAT LARGEST INDUSTRIAL ALCOHOL DISTILLERY IN THE UNITED STATES.

plant will be able to turn out sulphuric acid of 68 degrees Beaume.

It will require about 10 months to complete the work, which includes alterations to the present plant. The most up-to-date appliances on the market will be installed. The company is doing the work, and a large force of engineers and chief contractors have come to Baltimore to direct it. It is estimated that upwards of \$500,000 will be expended.

F. S. Royster Company's Expansion.

Large additions to the acid plant of the F. S. Royster Company, manufacturer of fertilizers, with a factory at Seawall, are being made. A concentrating building that was badly damaged by fire recently has also been rebuilt. The addition is being erected beside the present plant, and is of concrete, steel and galvanized iron construction. The acid output of the plant will be greatly increased, and will allow for a much greater tonnage of fertilizer. Most of the fertilizer manufactured by the plant is sold to Southern consumers.

This plant is situated beside the factory of the Rasin-Monumental Company, and has an advantageous waterfront site.

United States Asphalt Refining Co.

Improvements which have increased the output by 25 per cent. have been completed at the plant of the United States Asphalt Refining Co. at East Brooklyn. The Inter-Ocean Oil Co. and Oil Assets Corporation are controlled by the asphalt company. Before building operations commenced the plant had a weekly output of more than 5000 barrels of asphalt, while the Inter-Ocean Oil Co. had an output of over 2500 barrels of oil weekly. The asphalt company last summer purchased 105 acres of land adjoining its plant, and already several buildings have been erected on it. The improvements consisted of the erection of stills, laying of pipe lines, erection of several huge tanks for the storage of oil and grading of ground for storage of asphalt. Railroad lines have been laid over the grounds so that every part of the works may load its products conveniently. The company owns its own car slip and ships its products on the Baltimore & Ohio, Pennsylvania and Western Maryland railroads.

A barrel-house for the manufacture of asphalt containers has been erected. This consists of three buildings of one story and of frame construction. The ma-

chinery is now being installed. It will have an output of 1000 barrels a day.

The improvements and additions cost about \$400,000. The work was done by the company.

Prudential Oil Corporation's Plans.

The Prudential Oil Corporation's plant, situated at Fairfield, covers a tract of 90 acres. About one-half of the land is now occupied, and it is intimated that with the coming of warm weather the plant will begin new improvements with a view to increasing the output. Already the company, which is controlled in New York, has orders booked for months ahead. Over 2,000,000 has already been invested. A large paraffine works is operated in connection with the refinery.

A temporary frame barrel storehouse has been erected, but as soon as plans are completed a large barrel plant of brick will be erected, and barrels will be manufactured for use in shipping the products.

Plans have been completed for a private two-story hospital. A doctor will always be on hand. First-aid cabinets have been placed throughout the plant, and all injured will be given treatment by the company's doctor.

A gasholder of about 500,000 cubic feet capacity has been constructed by the Bartlett-Hayward Company of Baltimore. This holder is 90 feet in diameter, and is of the telescope type. When fully extended it will reach a height of 60 feet, and when reduced will be 30 feet high. It will be used as a storage tank for sour gas from the stills. The refinery is using Mexican crude. It was put into operation last year, and since that time the gas has been run off and burned in a field, but upon the completion of the holder this gas will be stored and burned under the stills and boilers as needed.

Baltimore Car & Foundry Co.'s Large Plant.

An all-steel car plant, which when completed will be the largest of its kind south of New York, is being erected by the Baltimore Car & Foundry Co., subsidiary of the Standard Steel Car Co., with offices in Pittsburgh. The steel is being furnished by the main plant at Butler, Pa., and the work is being undertaken by the company.

Last summer four acres of land was purchased on Curtis Avenue at a cost of over \$14,000. Four dwelling-houses, one warehouse, a garage and a store are now being razed to make way for the improvements. Considerable amount of grading is being done, and the

dirt is being moved to complete a big fill on the land recently purchased. The buildings are being built in sections. They are of steel, concrete and galvanized iron construction, with steel sash. One building alone will cover over nine acres, being 1200x273 feet, and about 30 feet high. The crane shed is about 100x100 feet. Part of its equipment will be seven 20-ton cranes and twelve 7½-ton cranes. A number of small buildings used as storerooms have been razed, and a number of other buildings will be taken in by the additions.

At the plant will be manufactured every part of all steel cars. The equipment will be of the most up-to-date type. The great demand for all-steel cars is the occasion for this plant. It is stated that the plant will also turn out structural steel and bridge work, as other branches of the Standard Company are doing.

It is estimated that the addition and alterations will cost \$500,000. When the new plant begins operation the amount of men employed will be upwards of 100 or double the number now at work. The capacity of the plant will be around 50 cars a day.

BALTIMORE'S INDUSTRIAL ACTIVITY D OUTLINE.

Great Development Work That Is Strengthening Baltimore's Position as a Leading Center of Manufacture.

In and near Baltimore various other important and large manufacturing plants are being built or increased in capacity, as heretofore detailed by the MANUFACTURERS RECORD. The most prominent of these include the following:

Maryland Steel Co., Sparrows Point, now controlled through recent purchase by the Bethlehem Steel Corporation, Bethlehem, Pa., is preparing to undertake extensive additional construction and new machinery installations entailing an ultimate investment of from \$15,000,000 to \$20,000,000. This Sparrows Point property is to be developed as the principal unit in the Bethlehem company's shipbuilding activities. Plans include adding to blast furnaces, steel furnaces and coke ovens, besides large facilities for manufacturing sheet and tin plate. The two latter products will be secured through the Baltimore Sheet & Tin Plate Co., which had begun to build a \$1,500,000 plant, the Bethlehem management having purchased control of this new corporation and decided to build at Sparrows Point. The sheet and tin plate enterprise will be increased to a \$4,500,000 investment, providing for an annual capacity of 3,000,000 base boxes of tinplate of 100 pounds each. More than 10,000 electrical horse-power will be consumed in this establishment, the electricity to be obtained from the Pennsylvania Water & Power Co., which transmits electrical energy to Baltimore from its hydro-electric plant at McCall's Ferry, Pa.

Davison Chemical Corporation was refinanced with a capitalization of \$10,500,000 in connection with its extensive sulphuric acid plant and for developing its sulphur properties in Cuba and its phosphate lands in Florida, utilizing the materials in the manufacture of acid phosphate. This company's main plant is on a 410-acre tract with a frontage of three miles on the Patuxent River. The annual production is 60,000 tons of sulphuric acid, fertilizer acid, acid phosphate, etc., to which about 40,000 tons annually is being added. The Florida phosphate lands comprise 2000 acres, and are estimated to contain 7,000,000 tons of high-grade pebble phosphate rock. The Cuban properties are estimated to contain 1,400,000 tons of sulphuric pyrites blocked out. The company is providing additional sulphuric acid manufacturing facilities with an annual capacity of 30,000 tons, the raw material to be Southern sulphur. It is investing about \$250,000 for fireproof buildings for this purpose, the machinery to include sulphur burners.

Poole Engineering & Machine Co., which obtained a new charter and incorporated with a capitalization of \$3,500,000, built extensive additions and completed improvements, including buildings and machinery, at a cost of \$800,000, besides building a loading station on a 350-acre site at Texas, near Baltimore. This company's contracts for European war munitions amounted to \$17,785,000, with provisions for increases up to nearly \$50,000,000. Its additions increased its capacity about four times, and 95 per cent. of its new equipment



OUTLINE MAP OF CURTIS BAY DISTRICT.

will be available after the war for its regular activities in manufacturing various classes of machinery.

Pennsylvania Railroad Co. is making rapid progress with the construction of its \$1,000,000 coal pier at its Canton wharves, this pier to be 940 feet long by 66 feet wide. Wharf space is being provided for loading four vessels simultaneously, both sides of the pier to be utilized, the daily capacity to be the loading of 20,000 tons of coal into vessels. An accompanying plant is the thawing-house, which has a capacity of 30 carloads of coal, where coal frozen in transit from the mines will be thawed by steam, so that it can be readily handled by the pier machinery. The storage yard for loaded and empty cars will have space for 1000 cars.

Western Maryland Railroad built a \$500,000 grain elevator and storage-house with a capacity of 900,000 bushels, and it is currently rumored that the officials are considering the construction of additional facilities of this character.

Baltimore Oil Engine Co. was incorporated with \$1,050,000 capital to build a plant for manufacturing internal combustion oil engines of from 5 to 1000 horsepower and larger units. Its first plant unit will include a 200x100-foot steel, concrete and brick fireproof construction building, plans and specifications for which have been completed and submitted to a selected list of well-known contractors. The contract will soon be awarded.

Shawinigan Electro-Products Co. built a plant with daily capacity of 30 tons ferro-silicon, the equipment including a 10,000-horse-power electric furnace. This plant uses a large horse-power of electrical energy obtained from the Pennsylvania Water & Power Co.'s substation, the electricity being transmitted from the corporation's big hydro-electric development at McCall's Ferry, Pa., on the Susquehanna River. The ferro-silicon plant will be increased to a daily capacity of 75 tons, it having been decided to install a second unit of 1,000 horse-power. Two fireproof buildings, 150x40 feet and 70x60 feet, will be erected for this additional unit.

Hess Steel Co. is rapidly constructing its plant for manufacturing alloy steel billets and other similar metal products. Its plant will include two electric furnaces, rolling mill, electric power drive, etc. The capitalization of this enterprise is \$1,500,000.

Baltimore Rubber Tire Manufacturing Co. was incorporated with \$200,000 capital and is nearly ready to begin operating its plant for the manufacture of rubber tires for automobiles and other vehicles.

Strong Box Company of America was incorporated with a capitalization of \$600,000 to build machinery for manufacturing fiber boxes, the equipments to be leased to box manufacturers.

Chemicals Wanted for Greece.

G. J. Tsatsos, 37 Rue d'Hermes, Athens, Greece:

"I am obliged to you for your assistance, and have already received, consequent to your advertisement, a number of interesting inquiries. Be kind enough to invite offers again for the articles mentioned on attached list, and which are urgently required on this market: Glycerine, 3000 kgs.; bismuth subnitrate, 60 kgs.; ammonium carbonate, 600 kgs.; naphthalene (en paillettes), 15,000 kgs. (in bags of 100 kgs.); castor oil extra fleur, 15,000 kgs. (in tin boxes 25 kgs.); morphine chlorhydrate, 15 (in bottles 100 gr.); aspirine (acide-acet. salicylique), 750 gr. in packets of 250 gr.; extrait fuguemale etheree, 1500 gr. in bottles of 500 gr.; acide borique (en paillettes), 15,000 gr. in boxes of 50 kgs."

"A Center of Culture and Agriculture."

HOWARD F. WILKINSON, Lexington, Ky.

The building outlook in our city for the coming season is very bright indeed. A high school at a cost of about \$75,000 and a grammar school at about \$40,000, a church building at \$100,000, together with numerous homes, ranging from \$3000 to \$25,000, are now under construction.

Being in the center of culture and agriculture, Lexington is an ideal spot in which to live. Our State University, together with other colleges and high schools, have helped real estate to maintain a good price here.

Flour Mills at San Antonio Built on Best Modern Lines

The accompanying illustrations of the new plant of the Pioneer Flour Mills, San Antonio, Tex., are of interest as indicating that the South is fully abreast with other sections of the country in adopting the best modern practice in mill equipment and construction, for it is stated that no finer example of the latest and best in flour-mill design and equipment can be found anywhere.

The principal objects of the owners were to have a plant that would be as nearly fire-proof as possible; that would require the minimum amount of power, produce the most perfect milling results, and that could be depended upon for long, continuous service with the least trouble and expense for maintenance. In all this they have succeeded.

Protection from fire risk begins with the building, which is of reinforced concrete framework, floors and roof, with brick curtain walls, sufficient glass surface being provided to insure excellent lighting. It also presents an unusually good exterior appearance.

In contracting with Allis-Chalmers Manufacturing Co.

of Milwaukee, Wis., for the complete machinery equipment instructions were given the manufacturers to eliminate woodwork wherever it was practicable to do so. The roller mills, reels, purifiers and other principal machines are accordingly built almost entirely of metal, and all of the elevators, spouting, air trunking, tempering bins and other parts commonly made of wood are in this mill of galvanized steel. There is thus but very little in the mill equipment to feed a fire if one should start, and a much more favorable insurance rate is therefore obtainable than on mills of the type of construction which has prevailed until very recently.

The grinding floor contains a line of 15 double 9x30 Allis ball-bearing roller mills with metal feeders and housings, the latter giving them an unusually attractive appearance. The bolting and purifying equipment consist of four No. 1070 Vibromotor Reliance sifters, five Allis centrifugal reels, one Reliance bran duster, one Reliance shorts duster and six Reliance purifiers. The reels, dusters and purifiers are all of metal construction. The line of wheat cleaners is equipped with ball bearings, and the finished products of the mill are packed by Reliance flour, bran and feed packers. All line shafting in the mill is carried in ball bearings.

In addition to the mill proper, there is a corn-milling department equipped with four 9x30 Allis ball-bearing roller mills, a Vibromotor Reliance corn sifter and suitable auxiliary machinery to make a very efficient system for producing fine grades of meal. This department also is equipped with steel elevators, spouting, etc., and ball bearings on the line shafts.

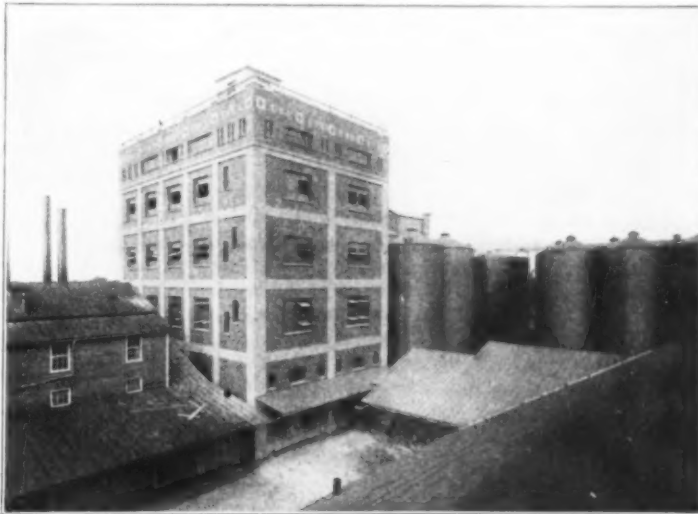
The entire plant is electrically driven, and tests made with everything running at full capacity show a remarkably low power consumption. Connected with the mill is a group of steel storage tanks of large capacity.

Industrial Enterprises at Brunswick.

Brunswick, Ga., April 8—[Special.]—One of the indications of the general business revival in Brunswick is the fact that the plant constructed by the Brunswick Creosoting Co., and for its own use about two years ago, is to start operations by July 1. This plant was completed about the time the European war started, but for the lack of necessary foreign materials it never turned a wheel.

It will be operated now as the Georgia Creosoting

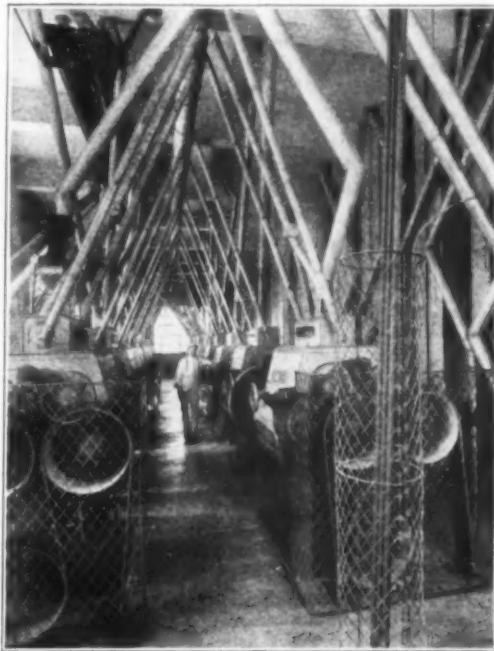
Co., which is a subsidiary company of the American Creosoting Co. of Louisville, Ky. This company has 14 other such plants in various parts of the country. The capitalization of the local company is \$250,000. It owns 15 acres on the riverfront here. It is what is known as a two-cylinder plant. Creosoted lumber,



PIONEER FLOUR MILLS, SAN ANTONIO, TEX. 1000 BARRELS CAPACITY.

ties and piling will be the products of the plant for the present, but later on it will probably add paving blocks.

The Georgia Rosin Products Co., capitalized at \$30,000, is another of the new industries here, and will begin operations about the middle of this month, pro-



PIONEER FLOUR MILLS, GRINDING FLOOR.

ducing rosin, oil and pitch from the waste materials from the local naval stores plants. The capacity of the plant will be 150 barrels a day.

The statement that the Yaryan Naval Stores Co. is to re-establish its large plant, burned several weeks ago, has been noted in the MANUFACTURERS RECORD. The construction of this plant will materially augment the good building record that Brunswick is expected to establish during 1916.

Fidelity Hosiery Mills Co., Newton, N. C., will add 20 new knitting machines, and has ordered this equipment; will install a sprinkler equipment during the next two or three months.

Construction of New Highways with Co-operation by Government

COMPREHENSIVE AND EQUITABLE PLAN BELIEVED TO HAVE BEEN REACHED
IN BANKHEAD SENATE BILL—POINTS OF DIFFERENCE
WITH HOUSE BILL.

[Special Correspondence Manufacturers Record.]

Washington, D. C., April 11.

Federal aid in the construction of new highways is by no means a new venture, as the old Cumberland road, built by Government money, will testify. Three-fourths of a century have elapsed since the Federal Government discontinued making Federal appropriations for road construction and the cost for the comparatively small mileage of State roads completed in recent years, public road improvements in the United States, according to the report of the Senate Committee on Postoffices and Postroads, is little more advanced than it was prior to the Civil War, considering the general progress of the country.

According to the best obtainable data, there are in all about 2,300,000 miles of public roads in all the States, of which only about 10 per cent. has been surfaced with any material other than the natural earth, and probably not over 5 or 6 per cent. can be classed as really good roads comparable with those which have been constructed in European countries. This failure to accomplish larger results has not been due to lack of outlay in money or energy, for it is estimated that in 1904, \$80,000,000 in money and labor was expended on the public roads, and that in 1914 the expenditure had grown to about \$260,000,000. If an average of \$150,000,000 per year for the 10-year period is taken as a basis for comparison, it would appear that about \$1,500,000,000 in money and labor has been expended on the public roads of this country in that period, with what the Senate committee describes as "pitifully inadequate results."

Lack of skilled supervision, failure to co-ordinate and correlate efforts, the inequitable distribution of the cost burdens, the making of ill-designed makeshift repairs rather than tangible and reasonably permanent improvements, the baneful influence of personal and political dictation, have all contributed toward this deplorable condition of our primary avenues of communication and of commerce.

Many views have been presented from individuals, organizations and representatives of different classes as to what should be done to give the United States an adequate system of improved highways. Reports have been printed by special investigators, long articles have been written by experts, but the Senate Committee on Postoffices and Postroads, headed by Senator Bankhead of Alabama, have made an exhaustive investigation into the whole subject and the bill recently reported by the committee to the Senate providing for better facilities for rural transportation and marketing farm products and encouraging the development of a general system of improved highways, is regarded as the best piece of legislative work which has been offered in the Senate in a long time.

The report, which has just come from the Public Printer, written by Senator Bankhead, should enlighten the South as to the need for a better system of road construction. After describing the small percentage of improved roads to the number of unimproved roads, the Senate report says:

This backwardness in the building of public roads has been all the more marked by contrast with the enormous development of traffic. Within the brief period of about 10 years the motor vehicle has been introduced and developed until it is now asserted that there are over 2,300,000 motor vehicles in use, or about one for every mile of public road. If these vehicles are estimated to average only 25 horse-power, it would mean a total of over 57,000,000 horse-power brought into use on our public roads with a suddenness which has no parallel in industrial history. This new and tremendous traffic has, by its peculiar effect upon road surfaces and its great strain upon bridges and road foundations, rendered infinitely more complex the problem of road construction and maintenance, which our systems of management had already proven utterly inadequate to meet.

Ordinary horse-drawn traffic has also increased to such a point that we now speak of tonnage not in millions, but in hundreds of millions, and of the ton mileage in billions. It has been estimated that to move the wheat crop alone in 1915 involved the hauling of more than 30,000,000 tons

over the public roads at a cost of over \$50,000,000. Some conception of the immensity of our farm production and the consequent movement of farm products over the country roads can be gained from the estimate prepared in the Department of Agriculture—that the production of corn, wheat, oats, potatoes, cotton and hay in 1915 aggregated 270,807,000 tons, while the total agricultural production for that year was valued at nearly \$11,000,000,000.

Half of our population are living in cities, but they must be fed by the products from the country, and thus the cities are directly concerned with the condition of the country roads. The products of the cities are being sent out many miles into the country by huge delivery trucks, and this again gives to the city a direct pecuniary interest in the condition of the public roads. Traffic has developed not in conformity with the administrative organizations upon which the systems of road taxation and road management rest, but has overflowed township lines, county lines, State lines, until today it has become apparent that a township is utterly unable, and should not, in equity, be called upon to construct and maintain its roads under a destructive traffic that may come from a dozen other townships, and in logical sequence it has become apparent that the farmers in an entire county should not be called upon to construct a road which is ripped to pieces by automobiles from nearby cities unless those cities help to bear the burden of expense for the construction and maintenance of such roads, and thus has gradually developed the trend away from local responsibility so as to make the county help carry the township burdens and the cities and State help carry the county burdens.

The Bankhead bill, reported by the committee of which he is chairman, provides that the Secretary of Agriculture shall co-operate with the States, through their respective State highway departments, in the construction of rural postroads. It is necessary for a State to have a highway department before there can be such co-operation. The first year the Federal Government would appropriate \$5,000,000, the second year \$10,000,000, and so on, up to \$25,000,000. After deducting 5 per cent. for administrative purposes, the Secretary of Agriculture, according to the bill, shall apportion the remainder of the appropriation for each fiscal year among the several States in the following manner: One-third in the ratio which the area of each State bears to the total area of all the States; one-third in the ratio which the population of each State bears to the population of all the States, as shown by the latest available Federal census; one-third in the ratio which the mileage of rural delivery routes and star routes in each State bears to the total mileage of rural delivery routes and star routes in all the States.

Government money shall be spent only for construction. The States must provide maintenance. After a State highway department submits to the Secretary of Agriculture statements setting forth proposed construction of any postroad or roads therein, and the Secretary of Agriculture approves the project, the State highway department then must furnish such surveys, plans, specifications and estimates therefor as are deemed desirable. Items included for engineering, inspection and unforeseen contingencies shall not exceed 10 per cent. of the total cost of the work. If the Secretary of Agriculture approves the plans, he must notify the State highway department, certify the fact to the Secretary of the Treasury, who then sets aside the share payable under the act, which shall not exceed 50 per cent. of the total estimated cost of the project.

The Secretary of Agriculture is authorized to withhold the apportionment of funds in any State in which roads constructed under the provisions of the act have not been properly maintained by the State or subdivision thereof.

The Senate Postoffice and Postroads Committee pointed out in its report that some plan must be adopted at the outset for determining what proportion of Federal appropriation shall go to each State. In arriving at the most feasible and equitable plan, consideration must be given to those factors which are intimately related to the public roads. First, it must be considered that primarily the road is designed for the use of people, and it would therefore seem most equitable that population should form a basic factor in determining

the distribution of appropriations. A secondary purpose of the public road is the development of land so that its riches may be made accessible for the use and benefit of man, and to this end area, which would represent the great sections of country yet to be developed, should be given consideration. Along our Eastern seaboard population is dense, available land is scarce, while in the great domain west of the Mississippi River large areas of productive land are comparatively thinly populated, but are capable of yielding rich returns under suitable development. It would therefore seem that if the interests of the East are protected by the factor of population, the interests of the West should receive consideration through including area as a factor of apportionment. Finally, the direct interest of the Federal Government, as represented by the great mileage of rural delivery and star routes for the transportation of mail and parcel post should have some weight in the granting of Federal funds, for certainly the Federal Government has a right to expect that its mail routes will be benefited by this general scheme of improvement, and so it would seem that the mileage of rural delivery and star routes should form another factor in the apportionment of appropriations.

A graduated appropriation beginning with \$5,000,000 for the fiscal year ending June, 1917, and increasing at the rate of \$5,000,000 annually until and including the fiscal year 1921, meets the requirements that a definite program extending over a period of years be established and that the appropriation be small at first and increase gradually so as to make possible the economical and efficient working out of the organization and the administrative features necessary, and at the same time to prevent further excessive demands upon the Federal Treasury.

Initiative on the part of the States availing themselves of the benefits of Federal aid is provided, and in the same section they are further called upon to make all surveys, plans, specifications and estimates for improvements to be made under the terms of the act, and it is further provided that the States shall have direct supervision of construction. Thus is reserved to all the States all that could possibly be expected by the most earnest advocate of State rights. The same section, however, provides adequate safeguards by vesting in the Secretary of Agriculture the power of approval of the applications made by the States, the surveys, plans, specifications and estimates furnished by them, and he is given the power of inspection and approval of the work as it progresses. This is an admirably-balanced plan of co-operation, and there seems to be no reason why it should not produce excellent results. To guard against extravagance in any of the joint work undertaken under the terms of the bill, it is provided in section 6 that the estimates shall not include more than 10 per cent. of the total estimated cost of the work for engineering, inspection and unforeseen contingencies.

The Federal Government's share of the cost of any road improved under this act is limited to 50 per cent. and it is required by or on behalf of the State an amount not less than that provided by the Federal Government. This requirement constitutes an equitable apportionment of burdens, and automatic check upon demands from the States for Federal appropriation. It insures the accomplishment of tangible results and affords a sound basis for the exercise by the Federal officials of the most searching scrutiny and a conservative policy of approval. The States are permitted in this section to provide labor and materials as a portion of their contribution. This will enable each State to use all the means available for this important work, whether it means money, materials or labor.

A very important provision is that which requires that an agreement be made by each State with the Secretary of Agriculture that the roads to be constructed under the provisions of the act shall be properly maintained. The importance of maintenance cannot be overestimated, and already many of the States have found, through bitter experience, that many millions of dollars' worth of costly improvements may quickly go for naught if efficient and thorough maintenance is not provided from the outset. If this provision is enforced from the very beginning of Federal aid there is reason to expect that every mile of road improved under the provisions of this act will be a permanent utility for the use and benefit of the people.

The Bankhead report concludes with this criticism of the House bill:

The Bill H. R. 7617, passed by the House of Representatives, referred to the Committee on Agriculture and For-

estry, and
ously del
and safe
of the Fu
s of the
in the S
tion by
provision
sought to
as much
every
visions
no power
whatsoev
ly the to
departme
such oth
given no
surveys,
to exami
able cost
For exam
of improv
\$800,000
that a d
purpose
power to
holly to
of the im
ment. Of
important
point. Ho
nent of
needs to
power of
power to
provement
the plans,
tary of
in the cap
the same
maintenan
surveys, a
tary of Ag
tain if th
said surv
to be paid
remains u
the act.
The Hou
tenance.
Federal fu
ending dra
able resu
roads, and
the part o

LARGE

Yaryan
90 P

Brunsw
Yaryan o
of the Ya
Miss, thr
Jr., claim
mixing cr
erties hav
through a
gasoline n
and tests,
fuel, it w
recover at
being that
each mont
constructed
The Yar
duce, and
its parent
Brailley s
sell, and th
Yaryan's o
stores plan
fuel. If h
duce gasol
prevailing
in view of
will doub
tion on a v
in event of
plant here,
tank steam
is now on
ferred to a
within 60
In talkin
spondent, M
line they

entry, and later referred to this committee, is most seriously defective in its failure to afford reasonable inspection and safeguarding on the part of the Federal Government of the Federal appropriations. A careful reading of section 3 of the House bill reveals the fact that no power is vested in the Secretary of Agriculture to disapprove the application by a State highway department for aid under the provisions of the act unless the road for which aid is sought fails to come within the provisions of the act. Inasmuch as the act passed by the House brings practically every class of roads in the United States within the provisions of the act, the Secretary of Agriculture would have no power to disapprove the application. Having no voice whatsoever in the selection of the road, he is then required by the terms of the bill to request of the State highway department surveys, plans, specifications, estimates and department surveys, plans, specifications, estimates and such other information as he may consider proper. He is given no power of approval or disapproval of the plans, surveys, specifications and estimates, but is only authorized to examine them and determine what would be a reasonable cost of the proposed improvement.

For example, if the estimate were submitted for a class of improvement that would cost, with reasonable economy, \$10,000 per mile, and the Secretary of Agriculture thought that a different kind of improvement would serve the purpose at a cost of \$3000 per mile, he would have no power to disapprove the original estimate, as his authority is only to determine what would be the reasonable cost of the improvement proposed by the State highway department. Of all the many points which it might be highly important for him to consider, he is restricted to that one point. He is required to notify the State highway department of his determination, and thereupon the State proceeds to carry on the improvement. Thus, having no power of approval of the selection of the roads, having no power to pass upon the suitability of the proposed improvements, having no power to disapprove the surveys, the plans, specifications and estimates of cost, the Secretary of Agriculture would be compelled to act almost in the capacity of a bystander. It is further provided in the same section that the construction or improvement or maintenance shall be in substantial compliance with said surveys, and in the fact of this lax requirement the Secretary of Agriculture is called upon by this section to ascertain if the road has been furnished in compliance with said surveys, plans and specifications, and then to cause to be paid to the proper authorities of the State whatever remains unpaid of the amount due under the terms of the act.

The House bill carries a provision for aid to road maintenance. This committee believes that the application of Federal funds to this purpose would constitute a never-ending drain upon the Federal Treasury without appreciable results in the form of a greater mileage of improved roads, and would tend to stifle the spirit of self-help on the part of local communities.

LARGE GASOLINE YIELD FROM CRUDE PETROLEUM.

Yaryan Interests Have New Process by Which 90 Per Cent. Recovery Is Possible, According to Statements Made.

Brunswick, Ga., April 8—[Special.]—Homer T. Yaryan of Toledo, nationally known inventor and head of the Yaryan Naval Stores Co. here and at Gulfport, Miss., through his local assistant, James S. Brailey, Jr., claims that he has perfected a system wherein by mixing crude or fuel oil, from which the gasoline properties have already been taken with kerosene and through a process of his own from 75 to 90 per cent. gasoline may be recovered. After several experiments and tests, both as to its production and use as a motor fuel, it was decided to build a plant here which would recover at least 100,000 gallons per month, this amount being that used by the Yaryan naval stores plant here each month. A battery consisting of 10 units is being constructed, and it is a complete plant in itself.

The Yaryan Gasoline Co. has been organized to produce, and for the present, at least, sell its output to its parent organization, the naval stores company. Mr. Brailey states specifically that they have nothing to sell, and the birth of the plan came as the result of Mr. Yaryan's desire to reduce the gasoline bill for his naval stores plants, which use enormous quantities of the fuel. If his process, which makes it possible to produce gasoline at less than half the cost of the present prevailing prices, is the success that is predicted for it, in view of the unlimited possibilities for its sale, plans will doubtless be laid for its production and distribution on a very large scale. The raw crude, or fuel oil, in event of the establishment of a wholesale recovering plant here, will be shipped to the port of Brunswick in tank steamers from Oklahoma and Texas, as indeed it is now on a much smaller scale. The first battery, referred to above, will be installed and producing gasoline within 60 days, according to Mr. Brailey.

In talking with the MANUFACTURERS RECORD correspondent, Mr. Brailey brought out a sample of the gasoline they are now producing with the experimental

model that has been installed at the plant. Its color is about that of ripe wheat straw. Placed in the hand it does not evaporate as quickly as white gasoline, but the odor is about the same.

The fuel was first tried out on the Yaryan plant runabout, which has been used so long that it would compare with a family horse which had seen its best years of service, the habitual gait of which was a slow jog trot. The runabout had, according to the men around the Yaryan plant, about reached this comparative stage, but with the infusion of the new fuel into its iron veins had leaped forward with the vigor and spirit of a doped race horse, and has kept up the pace ever since. It is claimed that with the new gasoline a higher degree of combustion is possible than with the white gasoline.

The new fluid is secured through a redistilling process which is entirely different from the Burton system used by the Standard Oil Co. for the production of the present commercial gasoline. Mr. Brailey states that the merit of the new system lies in its simplicity, the details of which they are not giving out for publication or otherwise.

Mr. Brailey states that they are making no effort to stem the tide of the present high prices of gasoline, but it is thought probable that if their product is put on the market on an extensive scale it will, at least, help in keeping it from climbing higher than it is now.

Referring to the plans of two companies which he and associates have incorporated, H. T. Yaryan of Toledo, O., writes to the MANUFACTURERS RECORD as follows:

"At this time I do not care to go into details concerning my apparatus for manufacture of gasoline. A large apparatus will be in operation by June 1, and that will speak for itself. There is absolutely no trouble in converting 90 per cent. of crude oil or kerosene into gasoline at an expense less than 3 cents per gallon. The present price of gasoline is due to excessive demand, and refiners in attempting to meet this demand have produced more kerosene and other by-products than the market will absorb, with a consequent decline in these products until all profits must fall upon gasoline.

"The Standard Oil Co., using the Burton process, is able to convert the heavy oils into gasoline, but cannot break up kerosene. The Rittman process is still in the experimental stage, and does not promise much relief. The situation will grow worse until sufficient capital is invested in some process that will convert all the crude oil into gasoline except the tar. This, I have demonstrated, can be done."

The Yaryan Gasoline Co. and the Yaryan Flotation Co. are the two new corporations referred to, their incorporators being as follows: H. T. Yaryan of Toledo, James S. Brailey, H. W. Perry and Claude Suter, each of Brunswick, Ga., where the companies have been incorporated to manufacture gasoline from the Yaryan Rosin & Turpentine Co.'s by-products.

Manufactures in South Carolina in 1914 and 1909.

A preliminary statement of the general results of the census of manufactures for South Carolina has been issued by the Bureau of the Census. It consists of a summary comparing the figures for 1909 and 1914, by totals.

The census of 1914, like that of 1909 with reference to manufactures, excluded the hand trades, the building trades and the neighborhood industries, and took account only of establishments conducted under the factory system. In the last census, also, as in that for 1909, statistics were not collected for establishments having products for the census year valued at less than \$500, except that reports were taken for establishments idle during a portion of the census year, or which began operation during that year, and whose products for such reason were valued at less than \$500.

The word "establishment" as used in the census reports may mean more than one mill or plant, provided they are owned or controlled and operated by a single individual, partnership, corporation or other owner or operator, and are located in the same town or city.

The reports were taken for the calendar year ending December 31, 1914, wherever the system of bookkeeping permitted figures for that period to be secured, but when the fiscal year of an establishment differed from the calendar year a report was obtained for the operations of that establishment for its fiscal year falling most largely within the calendar year 1914.

The population of South Carolina at the census of

1910 was 1,515,400, and it is estimated that it was 1,590,000 on July 1, 1914.

The summary shows a considerable increase at the census of 1914, as compared with that for 1909. In the order of their importance, from a percentage standpoint, the increases for the several items rank as follows: Materials, 37.2 per cent.; primary horse-power, 23.1 per cent.; value of products, 22.7 per cent.; salaried employees, 21.7 per cent.; salaries and wages, 20.5 per cent. There was a slight increase in the number of wage-earners employed.

The capital invested, as reported in 1914, was \$263,211,000, a gain of \$29,990,000, or 17.3 per cent., over \$173,221,000 in 1909. The average capital per establishment was approximately \$108,000.

The cost of materials used was \$91,009,000 in 1914, as against \$66,351,000 in 1909, an increase of \$24,658,000, or 37.2 per cent.

The value of products was \$138,891,000 in 1914 and \$113,236,000 in 1909, the increase being \$25,655,000, or 22.7 per cent. The average per establishment was approximately \$74,000 in 1914 and \$61,000 in 1909.

The salaries and wages amounted to \$29,052,000 in 1914 and to \$24,117,000 in 1909, the increase being \$4,935,000, or 20.5 per cent.

The number of salaried employees was 3964 in 1914, as compared with 3257 in 1909, making an increase of 707, or 21.9 per cent.

The average number of wage-earners was 71,914 in 1914 and 73,046 in 1909, the decrease being 1132, or 1.5 per cent.

A comparative summary for the State for 1909 and 1914 follows:

	Census		Per ct. of increase, 1909-14.*
	1914.	1909.	
Number of establishments.....	1,885	1,854	1.7
Persons engaged in manufactures.....	77,693	78,040	-0.4
Proprietors and firm members.....	1,815	1,737	4.5
Salaried employees.....	3,964	3,257	21.7
Wage-earners (average number).....	71,914	73,046	-1.5
Primary horse-power.....	340,224	276,378	23.1
Capital.....	\$263,211,000	\$173,221,000	17.3
Services.....	29,052,000	24,117,000	20.5
Salaries.....	4,879,000	3,756,000	29.9
Wages.....	24,173,000	20,361,000	18.7
Materials.....	91,009,000	66,351,000	37.2
Value of products.....	138,891,000	113,236,000	22.7
Value added by manufacture (value of products, less cost of materials).....	47,882,000	46,885,000	2.1

*A minus sign (-) denotes decrease.

\$800,000 FOR VIRGINIA PLANTS.

Three Important Enterprises for Goshen.

Industrial news from Goshen indicates the revival of manufacturing activity in that Virginia city. Arrangements have been concluded for the establishment of three important factory enterprises, \$800,000 to be invested by Fort Wayne (Ind.) manufacturers. The Heiness Motor Plow Co. will build a \$400,000 plant, the Nelson-Myer Tie Co. a \$350,000 plant and the Miller-Lillich Company a \$50,000 plant. T. O. Nelson of Fort Wayne wires the MANUFACTURERS RECORD outlining the principal details of these three enterprises as follows:

Heiness plant will be 77x491 feet, one floor, of concrete construction; estimated cost of buildings and equipment \$400,000; manufacture farm implements, principally motor plows.

Nelson-Myer plant building will be 92x612 feet, one floor, of concrete construction; estimated cost of plant complete, with equipment, \$350,000; manufacture steel and iron products, principally iron railroad ties.

Miller-Lillich plant will be 58x116 feet, two floors, of concrete construction; cost complete, including machinery, approximately \$50,000.

Oil Possibilities Near Quanah, Tex.

An examination of the country in the vicinity of Quanah, Tex., has been made by Carroll H. Wegemann of the United States Geological Survey to determine, if possible, the geologic structure of the area and the presence or absence of anticlines which might be effective in producing accumulations of oil or gas. The country around Quanah is not a proved oil or gas field, though reports of surface indications of oil and gas have been current there for some time.

Zinc Mining Industry in North Arkansas Vastly Expanding to Meet Market Demands

PRODUCTION INCREASES 400 PER CENT. IN YEAR—TRANSFORMATION FROM AGRICULTURAL TRANQUILLITY TO SEETHING TURMOIL OF INDUSTRIAL ACTIVITY—GREAT PROSPERITY NOTED EVERYWHERE.

By TOM SHIRAS, Mountain Home, Ark.

The opening of spring has given the zinc mining industry in the North Arkansas field an impetuous shove. Increased activity in every camp is decidedly noticeable. During the past 30 days the Yellow Rose, Thomas, Bear Hill, Moark and Climax mills have been put in operation. These are all new mills, and will figure in the production from this month on. More small operators have gone to work. Several big deals have been consummated and others are pending. Material is being rushed in for the construction of new mills. Production is increasing steadily, and a spirit of optimism is floating around every camp, and a wonderful development is expected before the beginning of another year. The field last year produced over 15,000,000 pounds of zinc ore, making a gain of 400 per cent. over the year before. Operators and others interested in the industry expect last year's output to be doubled this year. Land values are increasing and leases upon which development work has been done and which show up favorably are bringing good prices.

Probably the most important development that is now taking place in the field as a whole is the construction of a large number of new mills in all parts of the field. A tremendous amount of money is going into mill construction at this time, and this fact means a continuation of production, and that a substantial future is guaranteed for the field. Five new mills have been started since the first of the year. Ten more are under construction or preparing to construct, and as many more are contemplated, and will be built as soon as ground development has been pushed along far enough to justify. It would be quite conservative to state that taking the year as a whole, every two weeks will see a new mill started in the field. From a standpoint of community benefit the 60-ton custom mill started this month at Zinz by T. Thomas leads all others constructed. This plant is handling dirt now for the small, free ore silicate miner, which will enable him to save 50 per cent. more of his values than heretofore. In mining free ore, the dirt taken out which lays around it carries a big value. Until this plant was put in operation he had no method of saving it. Now, by paying a small milling toll, he can make a good profit on it.

Within the next 90 days the Buffalo River district will have adequate transportation, as the narrow-gauge railroad which is being constructed from Yellville, where it connects with the White River division of the Iron Mountain & Southern Railroad, will be completed by that time. Eleven miles of the grade is in now, which leaves only four more, and this is being completed as fast as a large force of men can get over it. The ties are nearly all out for the entire distance, and several carloads of steel has already been unloaded at the Yellville depot. All the big mines in the Rush Creek and contingent camps will have sidings put in right to their ore bins, which will do away entirely with teaming, which has been a great drawback to operations, especially during the winter months, when the roads were bad. This narrow-gauge transportation will cut down the cost of handling ore between the mines and the main line some 50 per cent.

Wood as a steam-making fuel will be eliminated in the majority of mills this year. Internal combustion engines are being installed at many of the old mills, and plans for the new mills under construction and those contemplated nearly all call for this kind of power. Wood as fuel has been unsatisfactory. There is plenty of timber from which to get a supply, but compared to oil it is outrageously expensive, hard to get and does not give the results under a boiler. With transportation and fuel problems solved within the next few months, the greatest difficulties that have at-

tended the development of the North Arkansas field will have been overcome.

Many important transactions have been made in the field during the past few weeks. J. C. Shepherd, the largest producer in the field, bought the fee in the Big Hurricane property in Searcy county, near Pindall, for which he paid \$75,000. It consists of 640 acres, and the mine proper shows one of the largest bodies of ore in the field. Mr. Shepherd also purchased the lease on the Red Cloud mine, for which he paid \$20,000. This lease has only a few months more than four years to run. R. M. Fletcher, a well-known lumberman of Pine Bluff, Ark., who is heavily interested in the narrow-gauge railroad, between Yellville and Rush, purchased the lease on the White Eagle at the mouth of Rush, the consideration being \$10,000. Ed. Zimmerman, of the firm of Zimmerman & Schofield, well-known operators in the Buffalo River district, report the sales of interests in the Buffalo Zinc & Copper Co.'s lease and the Lucky Tiger. The Beatty, a well-known jack property on the north side of the field, on Jimmie's Creek, has also changed hands. The biggest transaction of the field since activity started is now pending between ex-Governor Heiskell of Oklahoma and owners of the Coker Hollow mine and 400 acres adjoining. This is located near Zinc, in Boone county, and if the deal is consummated it means rapid and extensive development for that immediate section.

The biggest strike made in that camp for some time was made recently by L. T. Westrich, a well-known operator of that camp, on the John Bailey land, four miles northwest of Zinc. He has opened up a big body of jack, much of which can be handled without a mill. His miners at this time are recovering approximately 1000 pounds per day per man by hand cobbing. Byrue & Johnson will start a diamond drill on the Palmer land in this camp within the next few weeks. This will be the first test made in this manner in that camp, and some big ore bodies are expected to be found in deep ground.

The carbonate and silicate ores still lead in production, and bring the greatest surprises. They run mostly in free form. Every day, nearly, brings in a new variety in texture, color and value. This ore is found all the way from the very grass roots in as far as the longest tunnels have penetrated. A. M. Walters, who is operating on a tract of the Milum land seven miles north of Zinc, is getting his ore from shallow trenches, much the same as are dug for water mains in the cities, and he is making a splendid production of very high-grade ore. Some of this ore looks much the same as limestone rock, the value being detected only by its weight. In color it runs in variations from white to black, in grays, browns, blues and reds. The value of this character of ore was seen by Branner, former State geologist, when he made his report on the field early in the 1890's. Fro man extract in his report, in which he speaks of smithsonite, technical term for crystallized carbonate, he says:

"Although there is hardly a zinc prospect in North Arkansas that has not yielded some smithsonite, there is but little search nowadays for smithsonite alone. I feel reasonably confident, however, that when the search for our zinc ores has been properly systematized, large bodies of zinc carbonate will be discovered. They are most likely to be in regions of deep rock decay. And it should not be forgotten that some of the most important and best paying zinc mines in the world have been mines of smithsonite. It generally occurs, not in hard rock like sphalerite, but in clays and soils where less expensive labor is required to extract it. And there is always a good demand for carbonate ores."

The development of the field during the past 14 months has shown this theory to be correct in every detail. As early as 25 years ago Branner predicted a

wonderful future for the field. Other geologists and mining engineers have also reported favorably, and are being borne out now, and others who made unfavorable reports are being repudiated.

The latest incident of this kind deals with the Buffalo River district and the largest producer in the field, J. C. Shepherd.

Mr. Shepherd for many years had been operating a big silver property in Chihuahua, Mexico. Five years ago Grant Shepherd, his bother, who was associated with him, was in the States, came down and looked over the Buffalo River district. He was surprised at the opportunity presented, and he went East to Boston and put the project up to Boston capitalists. They told him that they would send an engineer down and look it over, and if his report was favorable they would finance it. The engineer came back with an unfavorable report. Not being satisfied, he sat down and wrote his brother, J. C. Shepherd, an exhaustive report on the district. A year later the revolution broke out in Old Mexico, and J. C. Shepherd and his wife barely got out with the clothes they had on. Not knowing where to turn, but remembering the report on the Buffalo River district which he had received from his brother, he came to Rush. He made mining pay when ore was low. Today he is operating five big mines, and is probably as large a single producer of zinc ore as there is in the United States. He is operating some of the same properties that the engineer for the Boston people turned down, and he started from the ground floor without a cent of working capital.

The last 14 months have turned the mineral counties in North Arkansas from sleepy mountain counties into beehives of industry. The writer has tramped over every bridge path in the mountains in the field for the past 15 years, and the transformation seems magical. For 50 miles up Buffalo River, where for years a bare 30 people lived, engaged in the peaceful occupation of farming, is now a seething turmoil of activity. Peaceful mountain creek valleys, where range cattle grazed, are "rag" cities populated by zinc mine operators. Sleepy little villages have waked up and are taking on cosmopolitan airs. Automobiles flash back and forth along the mountain roads, and the smell of petrol is in the air. Sweating teams, with wagons loaded with ore, machinery and provisions, line every highway penetrating the interior camps. These camps are replicas of the old free placer gold camps of the West. Free zinc is attracting the same rugged, optimistic, hard-hitting personalities. There are the silver miners from Old Mexico, copper and gold miners from the West, oil men from Oklahoma, Southern planters from South Arkansas, Tennessee, Georgia and Louisiana, small capitalists with only a few weeks' grubstake and large ones hunting for big propositions. The spirit of optimism permeates the atmosphere. A pessimist would die of congealed conversation, for he wouldn't be given a chance to air his vocabulary. There is only one topic of conversation. It is zinc, the price of zinc, zinc prospects, the probable period of high price, next month's price of spelter, etc. It is a disease in the field that has not been contracted by the miners and operators alone. The business men, and traveling men, and professional men all have it, and one would have to hunt the country over with a fine-tooth comb to find a man who was not interested, directly or indirectly, in some prospect.

Rush, the largest camp in the field, located at the mouth of Rush Creek, in Marion county, on Buffalo River, has approximately 3000 inhabitants scattered over a section six miles long and four miles wide. Before January 1, 1915, Rush in its balmy days and its wildest flights of enthusiasm never claimed more than 100. Rush is the biggest unincorporated city in the State of Arkansas, and cast more votes in the Democratic primary last month than any other town in five counties. It is a rag city now, but is becoming substantial as fast as lumber and building material can be laid on the ground. Several local sawmills furnish the lumber for construction, and a board never hits the ground. A customer is there ready to do the off-bearing and grab it as it leaves the saw. A bank is going in, and electric lights and water-works are contemplated.

Zinc, in Boone county, has grown from 376 inhabitants last July to 1200 at the present writing. Zinc, like Rush, has spread. It is also a rag city to a great extent, the various camps running up every hollow for several miles around the old part of the village.

Mountain Home, Yellville, Gilbert, Pindall, Olive-

Harrison, Lead Hill, Dodd City, Buffalo, Ponca City, Kingdon Springs and many other smaller places also show a substantial gain.

There has been a radical change in the financial conditions of the field. Formerly business depended largely upon the timber and farming industries. A bad crop year or a low market for timber products always put the people up against it. Everyone has money now. Bank deposits have more than doubled. The business of the small merchants has doubled and trebled. Every man and every team is in demand at a good price. Prosperity has come.

Production will be augmented this year by other causes than new development. The scarcity of zinc ore and the heavy demand for North Arkansas carbonates has opened a new low-grade carbonate market. Until last week carbonate was purchased on a 40 per cent. base. The price for the past year has fluctuated between \$60 and \$80 per ton for carbonate ores carrying a metal content of 40 per cent. A dollar has been deducted for each point under, to as low as 34 per cent., under which they would not buy at any price. A dollar a point was also added for ore that assayed above 40 per cent. A low-grade market has been opened now, with a low base of 20 per cent. No ore will be bought that assays under that, but \$2 a point will be paid over the base, up to 22 per cent., and \$1.50 per point from 22 to 34 per cent. Such ore has to weigh 100 pounds to the cubic foot. This low-grade ore will bring from \$12 to \$25 per ton f. o. b. shipping point, and this market will bring a large quantity of it out. There are dozens of big dumps that contain large quantities of this low-grade stuff that has already been mined, which are being hand-picked now at a good profit. There is a great deal of carbonate ore, too, that is heavily disseminated in rock, the whole assaying well over 20 per cent., that can be marketed now at a profit without milling. Operators believe that this factor alone will add at least a third to the production this year.

Southern Building in March.

The following figures as compiled by the MANUFACTURERS RECORD from reports from representative cities present a brief summary of Southern and Southwestern building operations during March:

Permits were issued in Baltimore for construction to cost \$1,204,718, including \$952,359 for new improvements, \$190,700 for alterations and \$61,659 for additions. The most important features of construction for the month were 247 two-story dwellings to cost \$387,800 and 10 manufacturing plants and warehouses to cost \$153,100.

In Richmond, Va., a total of 92 permits was issued for new construction to cost \$543,425 and 61 permits for alterations and repairs to cost \$50,295. As compared with March, 1915, these figures show an increase of more than \$300,000. Permits were issued in Norfolk to the number of 63, representing a cost of construction of \$1,276,139, which is considered the best monthly record Norfolk has ever made. Included in these figures are the Norfolk & Western piers to cost \$1,000,000.

A total of 82 permits was issued in Winston-Salem, N. C., for construction to cost \$171,000, as compared with \$96,038 for February. For the first three months of the year the value of operations is estimated at \$263,741. In Durham 22 permits were issued for construction to cost \$166,285, the most important building being the plant of the Imperial Tobacco Co., to cost \$130,000. Permits were issued in Nashville for construction to cost \$76,597, in Greensboro \$38,900 and in High Point \$74,107.

In Greenville, S. C., the cost of construction for which permits were issued during the month is estimated at \$120,425. These figures show a large increase as compared with previous monthly reports.

The cost of construction for which permits were issued in Atlanta is estimated at \$413,000, an increase of about \$140,000 as compared with the corresponding month last year. The value of operations for the first three months of 1916 is estimated at \$800,254.

A total of 464 permits was issued in Birmingham, Ala., representing a cost of construction of \$188,426.

In Jacksonville, Fla., a total of 45 permits was issued for construction to cost \$66,100, and in Miami \$96,700.

Permits were issued in Chattanooga for construction to cost \$107,000. As compared with February these

figures show a decrease of about \$80,000. In Knoxville the cost of construction for which permits were issued is estimated at \$50,440, while the value of operations in Nashville is estimated at \$352,884, representing 411 permits.

Permits were issued in Louisville, Ky., to the number of 304, representing a cost of construction of \$576,730. As compared with March, 1915, these figures show an increase of \$58,630.

Operations in Kansas City, Mo., show a decided increase over March, 1915, when permits were issued for \$648,000 worth of construction. Exact figures for March of this year are not available, but the value of operations will probably reach \$1,000,000. In Joplin the cost of construction for which permits were issued during the first three months of this year is estimated at \$162,588, and for March at \$43,413.

In San Antonio, Tex., a total of 230 permits was issued during March, representing a cost of construction of \$199,470. A total of 177 permits was issued in Dallas for construction to cost \$452,891, as against \$147,690 for the corresponding month last year. In El Paso permits were issued for construction to cost \$405,772, an increase of \$193,102 over March, 1915. For the first three months of this year the value of operations is estimated at \$1,204,998. The cost of construction for which permits were issued in Beaumont is estimated at \$90,000, an increase of about \$40,000 as compared with February. The value of operations in Corpus Christi during the month is estimated at \$18,625.

The cost of construction for which permits were issued in Tulsa, Okla., during the month is estimated at \$329,930, as compared with \$58,355 for the corresponding month last year. In Oklahoma City the cost of construction is estimated at \$216,075, as against \$45,711 for March, 1915.

Martel Manufacturing Co., Egan, Ga., will install 364 automatic looms, displacing old type of weaving machines, contract for the new equipment having been awarded to the Draper Company of Hopedale, Mass.

\$2,000,000 STEEL PLANT FOR HOPEWELL.

Organization Details Progressing, With Northern Capitalists as Principals.

A \$2,000,000 steel plant with an annual capacity of 400,000 tons is proposed to be built at Hopewell, Va., on a 150-acre site including deep-water frontage. Outlining the enterprise, Walter Sachs of Petersburg wires the MANUFACTURERS RECORD as follows:

"Plant to cost \$2,000,000 practically assured; Richard Eppes, J. L. Vaughan, T. F. Heath, M. A. Finn, R. H. Mann and Walter Sachs, all of Petersburg, interested in initial payment to be made at once. Norfolk & Western Railroad offers good inducements. W. R. Miller of Pittsburgh is engineer."

A meeting to further plans for this enterprise was held at Petersburg on April 10, and nearly \$800,000 was subscribed after the meeting for preliminary expenditures and stock subscriptions. Leading business men were represented among the subscribers.

During recent months there have been rumors indicating that plans were being considered for building steel works in the territory tributary to Richmond, and doubtless this enterprise for Hopewell is the one which has been mentioned.

A Suggested Site for a Government Plant.

[The Texarkanian, Texarkana, Ark.-Tex.]

Hon. Josephus Daniels, Secretary of the American Navy, makes the direct accusation that for years this Government has been the victim of the private armor-plate manufacturers and that plate was sold to Russia for \$250 when it was sold to the United States for \$550 a ton.—Fort Worth Gazette.

Iron ore of superior quality and surpassing quantities lie undeveloped on the borders of Texarkana. The Government ought to establish a munition and steel-plate plant in Texarkana, where the supply of raw material is sufficient to run it a hundred years.

30,000-BARREL TANKER IN NEW BEAUMONT (TEX.) DEEP-WATER PORT.



Ship of the Magnolia Petroleum Co.'s fleet tied to the company's \$250,000 1000-foot concrete dock, a part of the harbor's development planned to eventually care for the handling of 3,000,000 tons of miscellaneous cargo annually. Beaumont is a lumber, oil and rice center, and it is these that will form a large portion of the cargoes shipped from the port.

AMERICAN COAL ABROAD.

The South the Source of Cheap Fuel—Low Cost of Mining Here.

D. A. Thomas, the well-known British coal mine operator, otherwise Lord Rhondda, said recently at the annual meeting of Consolidated Cambrian, Limited, that there need be no alarm about any displacement of coal by fuel oil, but there was need to watch closely the competition of United States coal, and he especially mentioned coal from mines in the South. He is quoted thus:

"We hear a good deal in these days of the threatened competition of oil. But I do not think that we need be under any alarm that oil is going to displace coal in the near future, simply because there is not enough of it. I should be the last to endeavor to underrate the merits of oil; it has in many respects great advantages over coal, and it is possible that, owing to its more easy handling, cleanliness and smaller space occupied for a given amount of work, it may supersede coal in use for the British naval purposes, but for the purposes of motive power generally, both in this country and in the United States, we need be under no alarm that coal will be displaced by oil, for there is not enough oil produced today throughout the world and available for fuel purposes to displace 10 per cent. of the coal at present consumed, or anything like it.

"Looking at the future, when the war is over, when we have secured victory, because I never felt more confident myself than I do today that we are going to secure that victory, what we have, I will not say to fear, but to watch very closely, is the competition of coal from the United States. We have very much more to learn from Americans than we have from the Germans, and, bearing in mind that coal is their chief source of motive power, just as it is ours, it is rather interesting to note the relative position of this country and the United States in that respect. A generation ago the cost of production of coal in the United States was higher than it was in this country, but today that position has been completely reversed. I am taking now, not anthracite coal, but bituminous coal. We will take the case of the Pocahontas coal, the coal used by the American Navy, which in chemical analysis is very similar to the best Welsh coal used by the British Navy, though its physical characteristics are inferior as it cuts small and will not stand transportation. The cost of producing a ton of run of the mine bituminous

coal in West Virginia is today less than one-third of the cost of producing a ton of unscreened Welsh coal, and putting it into truck at the colliery. I might mention incidentally in regard to this threatened competition that last year the export of coal overseas (I am confining myself to overseas exports) from the United States increased threefold, and undoubtedly it would have increased even more rapidly had it not been for the great scarcity of tonnage. America suffered in this respect even more than we did in this country.

"The output of bituminous coal per man in the United States was per annum more than three times the output of coal per man in South Wales; that was no doubt due mainly to the much easier conditions of mining. But there can be no question, and I say this decidedly, after having had some very recent experiences, that workmen in the United States, and in Canada also, work with far more energy, I believe, in all industries, than they do in this country. Here they seem to have an idea that the dignity of labor requires that the movements of the workmen shall be slow. I do not think that the dignity of labor is to be measured by the slowness of movement on the part of the workman. The restrictive policy, too often adopted in this country by the trades-union leaders, if it becomes general, is going to prove most disastrous to our international commerce."

Remarking upon the necessity of cheap fuel, Mr. Thomas also said: "It is of national importance, to my mind, that the cost of production at the close of last year was more than double what it was 20 years ago. The people in this country should realize that the enormous growth of the trade and commerce of Great Britain during the last century and a half was based upon a cheap fuel supply."

The Cotton Movement.

In his report of April 7 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 251 days of the present season was 10,698,530 bales, a decrease under the same period last year of 3,027,593 bales. The exports were 4,113,947 bales, a decrease of 2,557,820 bales. The takings were, by Northern spinners 2,262,685 bales, a decrease of 250,071 bales; by Southern spinners, 3,225,458 bales, an increase of 702,275 bales.

TYPICAL OF SOUTHERN BUILDING CONSTRUCTION.



NEW ST. PAUL SANITARIUM, DALLAS, TEX.

An addition is being erected to St. Paul Sanitarium at Dallas, Tex., which will greatly enlarge the capacity of that institution. The building is 175x48 feet, plus wings front and back. It will be fireproof throughout, of brick and concrete construction, and will have a roof of Bangor slate. Its equipment will consist of one freight and one passenger Otis electric elevators, Bryant silent nurses' call system, electric ticker system for master clocks, vacuum steam heat, etc.

Plans and specifications were prepared by J. Ed. Overbeck. The general contract was awarded to H. J. Curtis. Both are of Dallas.

The building will cost \$170,000 without equipment, and in addition a one-story building will be erected

in the rear to contain the main kitchen, scullery-room, storeroom, bakeshop and cold-storage plant. This structure will be 40x70 feet and cost \$12,500.

Among subcontracts awarded are the following: Plumbing, P. J. Reany & Co.; heating, Kinnison Bros.; wiring, Webb Electric Co.; cut stone, Theo. Beilharz; cast stone, Southern Architectural Cement Stone Co.; lumber and millwork, Buell Planing Mill Co.; common brick, Dallas Pressed Brick Co., all of Dallas; reinforcing steel, Trussed Concrete Steel Co., Youngstown, O.

An accompanying illustration presents a view of the sanitarium as it will appear when completed, the new addition appearing on the right.

\$150,000 Bank and Office Building for Gastonia

Contract for the immediate erection of a commodious and modernly equipped bank and office building has recently been awarded by the First National Bank of Gastonia, N. C., L. L. Jenkins, president.

The structure will be fireproof, 32x100 feet, seven stories, with steel frame and promenade tile roof. In its floor construction reinforced concrete and steel beams will be employed. It will be equipped with the



FIRST NATIONAL BANK BUILDING, GASTONIA, N. C.

steam vapor system of heat, with temperature control, conduit wiring and two electric elevators.

Plans and specifications were prepared by Wilson & Sompayrac of Columbia, S. C., and the general contract awarded to Travers-Wood Company of Richmond, Va., and Charlotte, N. C. Other contracts have been awarded as follows: Structural steel, Barber & Ross, Washington, D. C.; marble, tile and cabinet work, Geo. W. Muller Bank Fixture Co., Atlanta; elevators, Otis Elevator Co., New York; heating, General Fire Extinguisher Co., Providence, R. I., through its Charlotte office; plumbing, W. B. Guimarin & Co., Columbia, S. C.; electric work, Michael & Bevins, Gastonia; burglar-proof vaults and equipment, Mosler Safe Co., Hamilton, O.

The cost of the building is estimated at \$150,000. The accompanying illustration presents a view of it as it will appear when completed.

American Manufactures Wanted.

Juan Francisco Rojas, Calles Pichincha y Inque No. 103, Guayaquil, Ecuador:

"Permit me to give you a list of the articles which I would like to introduce and handle in this country: Matches; stearine candles; cotton goods; wool; thread; lard in barrels; wheat flour; corn; starch for washing or laundry purposes; glassware; enameled ironware for household purposes. I would like manufacturers or commission merchants who desire an agent in this country to communicate with me and give me their terms and details of what they wish, applying to the exporting firm of P. C. Tomson Company, 17 Battery Place, New York, who will give you ample references in regard to my firm. This New York export firm will probably be willing to supply information in regard to me, touching the other firms who may desire to communicate with me and establish commercial relations."

GREAT SULPHUR REFINERY FOR FREEPORT.

Branch of World-Important Chemical Concern Located at New Texas Seaport—Sulphur Production to Be Doubled.

Freeport, Tex., April 10—[Special.]—An important new industry secured for Freeport is a sulphur refinery, to be built by the San Francisco Chemical Co. Representatives are now on the ground preparing to construct a plant, which, from present announced plans, bids fair to become one of the most important industries of Texas. The name of the refinery will be the Freeport Chemical Works. It is owned and controlled by the Stauffer chemical interests of New York, San Francisco, Bordeaux, France, and Gernsheim, Germany, so that it will be a part of one of the greatest chemical interests of the world.

A site of five acres has been secured, and the company announces that all of this acreage will be utilized for refinery purposes. Machinery and power plant material are being received, and the work of construction is under way.

The large production of sulphur at Freeport was, of course, the initial attraction, added to which is the fact that a favorable location on deep-water frontage was available.

Coincident with the coming of the refinery, the Freeport Sulphur Co. is more than doubling its sulphur-producing capacity by the construction of an additional power plant unit, which, when completed and in operation, will be probably the largest steam-producing power plant in Texas, furnishing, as it is designed to furnish, over 13,000 horse-power from seven large Sterling oil-fired boilers. This is the third power plant unit to be installed by this company for the recovery of sulphur from the immense deposits here by the superheated steam heating and compressed air pumping method. The new unit will be housed by a massive steel and concrete structure, and the boilers will be drafted by an immense solid concrete chimney, 157 feet in height, 16 feet in diameter at the base. To furnish the mine water for the production of superheated steam by this plant, an immense water reservoir, impounding 40,000,000 gallons, has been provided, the water being conveyed into the reservoir from a 3½-mile water canal running from the mines to the Brazos River, gravity flow, thus insuring perpetual supply. The daily water requirement of the mines, upon completion of the third unit, will be 6,000,000 gallons, and the daily fuel oil requirement for firing the boilers of the plants will be 2000 barrels, or over 1,000,000 barrels per annum, making this industry the largest fuel oil consuming concern in Texas. It is believed, from present progress of construction work, that the new unit will be in operation in June of this year.

Wm. E. Hooper & Sons Company, Baltimore, has awarded contract to the Consolidated Engineering Co., Baltimore, for building its proposed cotton factory building addition and connecting bridge. This will be a three-story fireproof structure 142x101 feet. Herman F. Doeleman of Baltimore is the engineer.

Alabama's Strides in Merchant Iron Production

Birmingham, Ala., April 8—[Special.]—There were no new developments in the pig-iron situation during the week. All producing interests report that while no large sales were made, the usual small buying prevailed. One interest reports the sale of 6000 tons of standard and special analysis iron on basis of \$15.50 per ton at the furnace for standard iron and \$18.50 per ton at the furnace for special analysis iron.

On present-day production Alabama lacks only about 40,000 tons per month of merchant iron being equal to the second largest merchant iron producing State in the Union. By the middle of this year, if present plans carry, Alabama's production of merchant iron will be practically equal to that of the State of Ohio, which is second largest producing State in the matter of merchant iron. Alabama is producing at the rate of 18 per cent. of the total merchant iron produced in the United States. Alabama's production of merchant iron is practically equal to the combined production of merchant iron in the States of Virginia, New York and Illinois, and almost doubles the combined production of merchant iron in the 13 lesser producing States. If production keeps pace with present operations and plans, at the end of the present year Alabama's production will be at the rate of practically 3,250,000 tons of iron per annum, and at least 30 out of 45 stacks will be in blast.

Largely due to the matter of slack car supply, the stocks on hand were somewhat increased during the past month—not more than 3000 to 4000 tons. Some of the largest merchant iron buyers have not yet come in the market for their last half requirements, and while there has been considerable iron sold over the last half, much more is yet to be sold to be in keeping with present-day consumption of foundry iron.

Following are prices on pig-iron per gross ton f. o. b. cars at the furnace:

No. 1 foundry and soft.....	\$15 50 to \$16 00
No. 2 foundry and soft.....	15 00 to 15 50
No. 3 foundry.....	14 50 to 15 00
No. 4 foundry.....	14 25 to 14 75
Gray forge.....	14 00 to 14 50
Basic.....	15 00 to 15 50
Charcoal.....	23 50 to 24 00

Manufacturers of cast-iron pipe report that there has been no exceptional interest displayed in the matter of pipe purchases. There has not been that buying ahead on water pipe that would naturally be expected during such an uneasy period in pig-iron. J. R. McWane of the American Cast Iron Pipe Co. who has been in South America for the past several months, is expected to return to Birmingham the middle or latter part of next week. Reports made by him during his stay in Latin-America have been encouraging, and substantial business has resulted from his trip of inspection.

Following prices are quoted per net ton f. o. b. cars at the works, standard pipe: Four-inch to six-inch, \$28; six-inch and up, \$25, with \$1 per ton extra for gaspipe and 16-foot lengths.

The old material market has shown marked improvement all down the line. The demand and sales are brisk, and prices have advanced. Steel in all its forms is keeping pace with the new product. One large inquiry for 10,000 tons of steel rerolled rails has been received, but it is doubtful if such an order can be filled at this time from this section. Some sales of steel scrap have been made to Eastern buyers at \$12.50 per ton Birmingham for miscellaneous steel and \$15.75 per ton for rerolled rails. The local market is not bringing such prices, however. Following prices per net ton f. o. b. Birmingham are quoted:

Old steel axles.....	\$19 00 to \$20 00
Old steel rails.....	14 00 to 14 50
No. 1 steel scrap.....	11 25 to 11 50
No. 1 wrought scrap.....	10 75 to 11 00
No. 1 cast scrap.....	11 50 to 12 00
Stove plate and light cast scrap.....	10 00 to 10 50
Old car wheels.....	10 50 to 11 00
Tram car wheels.....	10 00 to 10 50

Alabama coke continues to be a "rarity," and prices have been advanced. Quite a few of the commercial mines are shipping coal to convenient ovens for coking purposes, which has been a great help to the local coal market. For strictly 72-hour foundry coke producers are asking \$4.50 per ton at the ovens, and for furnace or smelter coke \$3.25 to \$3.50 per ton at the ovens. Sales have been heavy, with no tendency toward a slackening.

Mechanical Engineers Hold Meeting in New Orleans.

The spring meeting of the American Society of Mechanical Engineers is being held this week at New Orleans, La., as the guests of the local members and the Louisiana Engineering Society.

Among the papers read before the meeting are the following:

- "Organizing for Industrial Preparedness," by Spencer Miller, Member of Council, Am. Soc. M. E., Member Naval Consulting Board.
- "Capacity and Economy of Multiple Evaporators," by E. W. Kerr, Mem. Am. Soc. M. E.
- "The Evolution of Low Lift Pumping Plants in the Gulf Coast Country," by William B. Gregory, Mem. Am. Soc. M. E.
- "Mechanical Equipment Used in the Port of New Orleans," by William von Phul, Mem. Am. Soc. M. E.
- "Establishing a Standard of Measurement for Natural Gas in Large Quantities," by Francis P. Fisher, Mem. Am. Soc. M. E.
- "Deviation of Natural Gas from Boyle's Law," by Robert F. Earhart and Samuel S. Wyer, Mem. Am. Soc. M. E.
- "Some Experiments on Water-Flow Through Pipe Orifices," by Horace Judd, Mem. Am. Soc. M. E.
- "The Measurement of Viscosity and a New Form of Viscosimeter," by H. C. Hayes and G. W. Lewis.
- "Dynamic Balance," by N. W. Akimoff.
- "On the Transmission of Heat in Boilers," by E. R. Hedrick and E. A. Fessenden, Mem. Am. Soc. M. E.

Of special interest was the paper by Mr. Spencer Miller on "Organizing for Industrial Preparedness," this outlining the work which is being done throughout the country at the invitation of President Wilson to gather together facts that will give an industrial inventory of the country.

Special trips to points of interest in and around New Orleans were arranged by the local committee for the visiting members.

Calvin W. Rice, with headquarters at 29 W. 39th street, New York city, is secretary of the society.

WHERE SOUTHERN MEN WILL RECEIVE MILITARY TRAINING.



PORT OGLETHORPE, GA. (NEAR CHATTANOOGA, TENN.), SITE OF THE SOUTHERN MILITARY TRAINING CAMP TO BE OPENED MAY 3 FOR TRAINING BUSINESS AND PROFESSIONAL MEN TO FILL OFFICERS' COMMISSIONS. THE CAMP WILL BE CONDUCTED BY FEDERAL ARMY OFFICERS, ALONG THE LINES OF THE PLATTSBURG (N. Y.) ENCAMPMENT. MEN FROM 21 TO 45 YEARS OF AGE WILL BE RECRUITED FROM TWENTY SOUTHERN AND WESTERN STATES.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

\$1,000,000 BRIDGE AT CHATTANOOGA.

Queen & Crescent Route Gives Contract to American Bridge Co. for Rush Job.

A new bridge to cost about \$1,000,000 will be built over the Tennessee River at Chattanooga by the Cincinnati, New Orleans & Texas Pacific Railway (Queen & Crescent Route), to take the place of the old bridge, the second span of which broke down under a freight train several weeks ago. The bridge will be erected by the American Bridge Co., 30 Church street, New York, and will require about 3000 tons of steel. It will be about 2000 feet long. Work is to begin soon.

The new bridge will be made wide enough for two tracks, because the railway company is double-tracking its line all the way through. It will have a lift span instead of a swinging span to permit the passage of river traffic. It is expected that the bascule or lift and the first two spans of the bridge will be completed and ready for use in about 10 months. The other spans of the old bridge will then be replaced one after another with the new double-track spans until all is finished. It seems to be expected that a number of the stone piers of the old bridge will be retained as amply strong for the new one, but there will be one or more new stone or concrete piers built, according to the decision of the company's engineers.

It is arranged that the erection of the bridge will be accomplished without interruption to traffic. C. Dougherty, Cincinnati, is chief engineer.

EXTRAORDINARY GAINS IN EARNINGS.

Increase of 232 Per Cent. in Norfolk & Western's Net Income for February.

The report of the Norfolk & Western Railway Co. for February shows gross operating revenues \$4,588,415, increase as compared with the same month of last year \$1,649,294, or 56 per cent. Operating expenses for the month were \$2,522,726, increase \$496,635; net income for the month \$1,664,293, increase \$1,162,704, or 232 per cent.

These extraordinary gains are principally due to the tremendous export coal traffic, although general business improvement has also contributed to enlarging the earnings.

The figures for the first eight months of the company's fiscal year, which began July 1 last, show operating revenues of \$37,289,300, an increase of 36 per cent. as compared with the corresponding period of last year; net income \$12,866,100, increase 107 per cent.

VIRGINIAN RAILWAY EXTENSION.

Negotiations to Secure Line Into Rich Coal Fields Around Logan, W. Va.

Negotiations are in progress which promise an early beginning of construction on the contemplated extension of the Virginian Railway from Mullens, W. Va., along the Guyandotte River to Gilbert and Man, and possibly to Logan, W. Va., 60 miles or more, to give additional transportation facilities to new coal fields which are being opened and which it is said are not only of remarkable richness but have as yet been hardly scratched with pick and shovel.

The negotiations began last week at Huntington, W. Va., a number of prominent coal operators meeting H. W. Walker of Norfolk, who represented the Virginian Railway. A committee was appointed by the coal men to meet the directors of the railway company and confer with the object of securing construction of the road. The committee consists of Clinton Crane of Cincinnati, J. L. Caldwell of Huntington, Virgil Highland of Clarksburg, W. Va.; T. P. Davis of New York and A. H. Land of Logan, W. Va.

It is asked by the railway that free rights of way

for the extension be granted by the coal land owners, and that eastbound coal traffic of 3,000,000 tons a year be guaranteed. The opinion of the coal men appeared to be that the requirement as to tonnage could easily be met, and several of them individually expressed willingness to grant the desired rights of way through their properties. There were also expressions of opinion that even as much as 6,000,000 a year of coal traffic is to be expected, and it was remarked that if the Virginian built its extension only as far as Gilbert the Chesapeake & Ohio Railway might build to that point and meet it so as to make a continuous through line from Logan eastward.

Clinchfield Coal for South America.

The Southern Railway Co. says that with the departure for Buenos Aires of the steamship Pleiades from the company's new export coal terminal at Charleston with 5000 tons of Clinchfield coal, the first actual step has been taken toward the development of what is hoped will be a large business from the Southern coal fields via Charleston and that this is the first cargo of export coal for South American consumption to clear through this port.

Opportunity for the development of this commerce with South America has been made possible through the erection of the new coal terminal, which embodies the most modern ideas for facilities of this character. Coal is dumped directly into a hopper, from which it is fed into the holds of ships by a belt conveyor and a telescopic chute, insuring the most rapid handling and eliminating to a great degree the breakage resulting when coal is dumped into ships by gravity from elevated pockets.

The loading of the Pleiades was an unusual demonstration of the abilities of the terminal. This ship came into port late in the afternoon, was loaded over night and was ready to continue her journey the next morning. Notwithstanding the fact that she was not well adapted for the cargo, being a "between" deck ship, which necessitated a vast amount of handling and trimming, she was loaded to her full carrying capacity. The president of the Clinchfield Fuel Corporation, which made the shipment, was present and expressed himself as being very much gratified with the performance.

While this is the first coal to leave for South America, a number of other cargoes have been sent to Cuba. There was a cargo for Cuba last week and also one for Galveston, Tex.

Louisville & Nashville's Statement.

The Louisville & Nashville Railroad's financial statement for February displays gratifying increases as compared with the same month of last year. The figures are: Operating revenues \$4,997,713, increase \$1,157,767; operating expenses \$3,330,495, increase \$218,607; net operating revenues \$1,667,218, increase \$939,160; operating income after taxes \$1,473,373, increase \$924,073; ratio of operating expenses to operating revenues, 66.64 per cent. In February, 1915, it is said that this ratio was over 81 per cent.

The figures for the first eight months of the current fiscal year of the company, July-February, inclusive, shows operating revenues \$39,304,100, increase as compared with the corresponding period of last year \$4,493,444; operating expenses \$36,037,820, decrease \$575,223; net operating revenues \$13,266,280, increase \$5,068,667; operating income after taxes \$11,733,687, increase \$4,966,147; ratio of operating expenses to operating revenues, 66.25 per cent.; last year it was 76.45 per cent.

Pennsylvania Railroad's Birthday.

President Samuel Rea of the Pennsylvania Railroad Co. calls attention to the fact that the Pennsylvania is 70 years old today, its charter having been granted April 13, 1846. Furthermore, he remarks: "For what our railroad represents after these 70 years credit belongs first to our stockholders, whose capital made possible the development of this railroad; second, to those directors, officers and employees who have gone before, and to 250,000 of us who are now working to make this

railroad system better every day; third, to a helpful and reasonable public.

"In these 70 years we have learned much. Above all, we know that the future prosperity of our company depends upon the continued confidence, co-operation and good-will of the people it serves."

These utterances are made public in Bulletin No. 16 of the Pennsylvania system, this being the method adopted by the company to inform its patrons of anything of importance to it and the public.

Interest attaches to the birthday of the Pennsylvania Railroad system for many reasons, but none of these is more prominent than its magnitude in earning power. Last year its gross earnings attained the total of \$374,939,645, an average of considerably more than \$1,000,000 per day, and two years previously they were more than \$392,435,000. This year increasing business may cause earnings to exceed even that high figure.

Meeting of Railroad Commissions.

C. M. Candler, chairman of the Georgia Railroad Commission, has called a meeting of State railroad commissions, to be held in Atlanta on May 10, to consider Southern railroad matters, and has invited the commissions of eight other States to be present, including Virginia, North Carolina, South Carolina, Florida, Alabama, Mississippi, Tennessee and Kentucky. Especial attention is to be devoted to securing uniform action by the several commissions upon interstate rates in the territory represented.

Clinchfield's Tidewater Terminal.

The Carolina, Clinchfield & Ohio Railway has completed filling in the site of its proposed coal terminal on the Cooper River at Charleston, S. C. A basin 1800 feet long and 800 feet wide alongside of the site has been dredged to a depth of 32 feet and the dredged material was used to fill in the marsh, 90 acres of which has been thus raised to a level of 13 feet above tide and 40 acres more to a level of 8 feet above tide. It will require the lapse of several months for the fill to settle to sufficient hardness to permit of pier construction. Dredging was begun nearly two years ago, in June, 1914.

Seaboard's Report of Progress.

The Seaboard Air Line Railway Co. reports for February gross earnings of \$2,289,728, increase as compared with the same month of last year \$482,695; net earnings \$738,279, increase \$298,524.

For the first eight months of the company's year, which began July 1 last, the gross earnings were \$15,886,408, increase \$1,770,567, as compared with the same period of last year; net earnings \$4,442,294, increase \$1,194,666.

New Equipment, Rails, Etc.

Norfolk Southern Railroad has received 6 freight locomotives from the Baldwin Locomotive Works, Philadelphia, Pa.

St. Louis Southwestern Railway has ordered 20 locomotives from Baldwin's. The road is also reported in the market for freight cars.

San Antonio Traction Co. has ordered 30 street cars, the order being equally divided between the St. Louis Car Co. and the American Car Co.

Coal & Coke Railway is in the market for from 150 to 200 hopper cars.

Atlantic Coast Line has ordered more than \$1,000,000 of equipment and rails for delivery this year. The contracts include 12 locomotives, 22 steel passenger cars, 25 Hart convertible cars from the Rodger Ballast Car Co., 500 box cars, 200 flat cars and 15,000 tons of rails from various builders, as previously reported. These orders are in addition to 25 locomotives and 750 box cars ordered some time ago, and which are now being delivered.

Wabash Railroad is reported in the market for Santa Fe type locomotives and 1000 more box cars.

Southwest Missouri Railway is in the market for electric cars.

Good Roads and Streets

SOUTHERN HIGHWAY ACTIVITIES.

Record of Week's Progress in Improvements in City and Country.

Details in regard to road and street undertakings and bond issues, briefly mentioned below, are given under the proper headings in our "Construction Department" and "New Securities," published elsewhere in this issue.

Bonds Voted.

Benton, Tenn.—Polk county authorized \$95,000 road bond issue.
Bartlett, Tex.—City will issue \$24,000 bonds for street paving.
Brookhaven, Miss.—Lincoln county issued \$200,000 bonds to gravel about 175 miles of roads.
Canton, Miss.—Madison county voted \$30,000 bonds to improve streets.
Cleveland, Tenn.—Bradley county will issue \$25,000 bonds for road construction.
Grayson, Ky.—Carter county issued \$100,000 bonds to construct roads.
Leesville, La.—Vernon parish issued \$150,000 bonds to construct model road.
Perryville, Mo.—Perry county, Road District No. 7, voted \$1500 bonds to improve roads.
Spencer, W. Va.—Roane county, Spencer District, voted \$240,000 bonds to construct roads.
Tazewell, Va.—Tazewell county, Jeffersonville District, voted \$96,000 bonds to complete system of macadam roads.

Bonds to Be Voted.

Arcadia, Fla.—City will vote on \$100,000 bonds to pave streets with brick, sand-asphalt or wood blocks, etc.
Belton, Tex.—Bell county, Sulphur Road District, votes May 6 on \$3000 bonds to construct three additional miles of road.
Brooksville, Ky.—Bracken county votes June 17 on \$20,000 bonds to construct roads.
Dobson, N. C.—Surry county, Rockford Township, votes May 2 on \$20,000 bonds to construct roads.
Greenville, Miss.—Washington county will vote on \$500,000 bonds to construct roads.
Henderson, Tenn.—Chester county will vote in August on \$100,000 bonds to construct roads.
Miami, Fla.—Dade county votes May 9 on \$25,000 bonds to construct roads.
Paris, Tenn.—Henry county will vote in August on \$250,000 bonds to construct roads.
Savannah, Tenn.—Hardin county votes June 3 on \$100,000 bonds to construct roads.
Union City, Tenn.—Obion county votes in May on \$500,000 bonds to construct 160 miles of roads.
Wartburg, Tenn.—Morgan county votes May 10 on additional \$100,000 bonds for road construction.
Waurika, Okla.—Jefferson county, Earl Township, votes May 11 on \$25,000 bonds to construct roads.

Contracts Awarded.

Cameron, W. Va.—City awarded \$3000 paving contract.
Chattanooga, Tenn.—City awarded \$15,831.50 paving contract.
De Land, Fla.—Volusia county, De Land-Lake Helen District, awarded \$300,248.28 contract for 25 miles of paving.
Maryville, Tenn.—Blount county awarded contract for 75 miles of highway; expend \$300,000.
Newland, N. C.—Avery county awarded contract for 10 miles of sand-clay road; 65,000 cubic yards material; \$65,000 available.
Newland, N. C.—Avery county awarded contract for 10 miles of sand-clay road; cost \$25,000.
Parkersburg, W. Va.—City awarded \$21,232.79 paving contracts.
Pawnee, Okla.—City awarded \$13,500 paving contract.
Sumter, S. C.—City awarded contracts for street paving; \$225,000 available.
Wytheville, Va.—Wythe county awarded contract for 3 3/4 miles of macadam road; \$16,000 available.

Contracts to Be Awarded.

Atlanta, Ga.—City invites bids to pave West Peachtree and seven other streets.
Baltimore, Md.—City receives bids until April 19 to pave The Alameda; 18,000 cubic yards.
Bartlett, Tex.—City receives bids until April 20 to construct 27,200 square yards street paving and 7600 linear feet of curb.
Bay Minette, Ala.—Baldwin county receives bids until May 15 to improve about 140 miles of road.
Caldwell, Tex.—Burleson county opens bids July 10 to expend about \$20,000 for constructing clay-sand roads.
Cumberland, Md.—Allegany county will improve three roads; \$30,000 appropriated.
De Queen, Ark.—Sevier county will construct 30 miles of Jefferson Highway; cost \$130,000.
Ellisville, Miss.—Jones county, District No. 2, receives bids until May 4 to construct 23.62 miles of highway.
Ellisville, Miss.—Jones county will improve about 25 miles of road in Second Supervisors District.
Kinston, N. C.—City will pave eight additional blocks with sheet asphalt.
Lafayette, Ala.—Chambers county receives bids until April 24 to construct 28 miles of road.
Leesburg, Ga.—Lee county will expend \$25,000 on road construction.
McKinney, Tex.—City receives bids until April 25 to construct 26,000 linear feet combined curb and gutter, 44,500 square yards asphaltic concrete pavement.
Miami, Fla.—City will expend \$400,000 for improvements to include three miles asphalt pavement, nine miles native rock pavement, nine miles curbs and gutters and 14 miles of sidewalks; also construct sidewalks costing \$37,000 in various sections of city.
Morganfield, Ky.—Union county will construct about 110 miles of gravel road; \$450,000 available.
New Orleans, La.—State receives bids until April 24 to construct about 21 miles of highway.
Petersburg, Va.—City receives bids until April 14 to construct nine miles of road.
Petersburg, Va.—Prince George county will expend \$90,000 to construct concrete roadway between Petersburg and Hopewell.
Towson, Md.—Baltimore county receives bids April 20 to improve about 3 1/2 miles of road with concrete and macadam.

Completing Scenic Highways in Western North Carolina.

Raleigh, N. C., April 10—[Special.]—State convicts are doing two interesting bits of public highway in the high mountain region in Western North Carolina. A force of 60 is at work on the last of the Blue Ridge section of the Central Highway, which traverses the State from Beaufort to the Tennessee line, east and west, 584 miles. This force is building the highway up the east face of the Blue Ridge, in McDowell county, and it is now only two miles from the crest of the mountain at Swannanoa Gap, where it will tie-in with the splendid section of this great road in Buncombe county.

Another force is west of Marshall, which is 22 miles west of Asheville, building a fine road, also a part of the Central Highway, toward Hot Springs, at which point the road will run along a creek to the Tennessee line. It will require several months' time to complete this line.

When these two links are done there will be one of the longest highways in the South. The grade up the Blue Ridge to Swannanoa Gap from Old Fort will nowhere be heavier than 4 1/2 per cent. The old stage road, famous for nearly a century, is to the southward of the new route, which crosses the headwaters of the Catawba River six times on steel bridges.

The United States, the State, the county and private citizens have all contributed to the construction of this particular link. When it is finished it will be put under patrol, like other links, and the familiar red, white and blue bands will mark it.

Much use is now being made of the scenic highway which the State and two counties, Rutherford and Henderson, have built through Hickory Nut Gap. It passes within a couple of hundred yards of the highest waterfall east of the Yosemite, the Hickory Nut fall, 900 feet

Seaboard Air Line is reported getting prices on 6 dining-cars.

St. Louis & San Francisco Railroad has ordered 29 locomotives from the Baldwin Locomotive Works.
Santa Fe System has ordered 60,000 tons of rails from the Colorado Fuel & Iron Co., Trinidad, Col.

Atlantic Coast Line has ordered 700 tons of bridge steel from the American Bridge Co.

The Southern Railway, the Norfolk & Western Railway, the Florida East Coast Railway and the Chesapeake & Ohio Railway are all reported in the market for rails.

Pennsylvania Lines West have ordered 1000 tons of bridge work from the McClintic-Marshall Construction Co., Pittsburgh. The same railroad company has also ordered for its Eastern lines 500 tons of bridge steel from the American Bridge Co.

Missouri Pacific Railway has ordered 1000 freight cars of various types from the American Car & Foundry Co.

Rail orders in March totaled approximately 1,100,000 tons.

Reliance Equipment Co., Mobile, Ala., is in the market for 1500 tons of relaying rails, viz., 500 tons of 40 to 45-pound, 1000 tons of 60 to 70-pound.

Cosden & Co., oil producers, Tulsa, Okla., have bought 225 additional tank cars.

Railroad Notes.

Richard C. Kerens has been elected president of the Coal & Coke Railway to fill the vacancy caused by the death of Henry G. Davis. Arthur Lee, hitherto second vice-president and treasurer, now becomes first vice-president, succeeding Mr. Kerens, and will be in active charge of the road. C. M. Hendley, hitherto secretary, now becomes secretary and treasurer.

The Petersburg & Appomattox Electric Railway, which since its recent opening for traffic has been operating a car every hour each way between Petersburg and Hopewell, Va., nine miles, has now begun the operation of cars each way every 20 minutes, the Vaughan Construction Co. having completed its contract for the entire completion of the road. An extension from Hopewell to City Point is now being built.

The Newport News & Hampton Railway, Gas & Electric Co. has issued its report for the year 1915, showing total operating revenue of \$916,171, increase as compared with 1914, \$102,463; total operating expenses \$524,506, increase \$34,838; taxes were \$28,880; income, less operating expenses and taxes, \$362,785; gross income \$365,874, increase \$62,754; net income \$129,963, increase \$56,751, or 77 1/2 per cent.

Protection and Preparedness Alike Essential

WM. H. COOPER, Masonic Building, Mobile, Ala.

Tariff for protection to industries and producers throughout this entire republic is as important, if not more important, than any other business proposition before our Government today. I congratulate the MANUFACTURERS RECORD on the great effort you are making to furnish the public with full data regarding the necessity for preparedness. I trust that before this Congress adjourns action may be taken in the direction of protection and also of preparedness in our Army and Navy departments. The men of the South feel our needs, and in these questions all sections are interested alike.

Cuba Needs American Products.

R. del Castillo, 108 S. C. Independencia, Cienfuegos, Cuba:

"I acknowledge receipt of a copy of your interesting review of the 10th of March. I am addressing communications to some manufacturers mentioned in your review and ask them, if they please, to give me their agency for their goods. Below I give you a list of mechanical apparatus and machinery in which I am interested and would like to secure agency. Cash registers; adding machines; typewriting machines; electric motors; alcohol and gasoline motors; petroleum motors; second-hand automobiles that have been repaired; phonographs and discs; electrical supplies."

high, and through the canyon or gap, long ago named the Hickory Nut Gap, because of the abundance of hickory trees. This road is now under patrol, and is admirable. Over it one finds a splendid route between

Charlotte and Asheville by way of Hendersonville or Fletcher's. When the Old Fort-Swannanoa Gap link in the Central Highway is done there will be two ways of getting to Asheville.

Putting Macadam Roads in the Permanent Class

By DANIEL T. PIERCE, Philadelphia.

In common with other sections of the country, particularly the New England and Middle States, the South has a large mileage of old turnpike and macadam roads upon which maintenance is very high. These are the leading highways of the localities through which they pass, and they should be kept in repair, but many communities find maintenance under motor traffic extremely burdensome. At the same time they do not have sufficient funds to build new and costly roads.

The mileage of stone roads in a number of Southern States, according to the latest figures compiled by the

Entirely new roads of permanent types cost anywhere from \$12,000 to \$22,000 per mile, construction costs being largely governed by length of hauls and local prices of labor and material. Maintenance on macadam roads subjected to motor traffic will range from \$400 to \$1000 per mile per year; that is to say, where roads are kept in constant repair. Average maintenance in five important Eastern States has sometimes reached \$800 per mile per year. Maryland has managed to maintain her macadam roads at an average outlay of \$450 per mile per year, but the average cost of mac-

adam facing of roads, to be attractive to the taxpayer, must be accomplished far below the figures given for entirely new roads. The highway records of a number of States show that this has been successfully done. Not only have they been successfully constructed, but are carrying some of the heaviest traffic in the United States. If they will stand under stress of this character it is



JAMESTOWN BOULEVARD, NORFOLK, VA. ASPHALT-MACADAM (PENETRATION METHOD) ON BROKEN-STONE BASE. BUILT 1911.

United States Office of Public Roads, is Maryland, 1222 miles; Virginia, 1011; Georgia, 522; Kentucky, 8700, and Tennessee, 2682 miles. To rebuild these roads from the ground up would cost these five States \$212,220,000, assuming a cost of \$15,000 per mile. This is sufficient evidence that some way must be found out of the difficulty of maintaining stone roads on the one hand, and the prohibitive cost on the other hand of replacing stone roads with new types of hard-surface highways.

In some States the upkeep of these roads has led to a compromise between entirely new roads and the road indifferently maintained—a utilization of the best qualities of each—and with more than satisfactory results, both as to meeting traffic requirements and securing low maintenance. Briefly described, it consists of using the thoroughly compacted old stone or macadam roads as foundations for a new surface of stone plus an enduring and tenacious binding material, the latter substituted for the unstable rock dust filler of the macadam road.

The destruction of the macadam road has come about through the dispersion of its binding material by motor cars, the rapidly revolving rubber tires scattering both fine and coarse material. Under horse traffic exclusively the stone is ground down, constantly creating a new binder, but for the reasons stated macadam roads will not stand the stress of motor traffic.

A moment's consideration of the subject will show the distinguishing characteristics between new and old stone roads to be the application of a more lasting binding material, stone being the wearing material in both cases.

adam construction in that State has reached \$12,500 per mile.

The resurfacing of old stone roads has many economic advantages. As stated, they afford excellent foundations, having been thoroughly compacted by years of travel. All this costly work has been done and paid for. Inasmuch as customary repairs to macadam require a new surface of several inches of stone when the roads are badly worn, the resurfacing proposition up to this point does not involve increased cost over prevailing methods of repairing this type of road. Therefore, the small additional cost becomes an investment in a binding material which will not only keep the stone in place, but will transform the macadam road into a mudless, dustless thoroughfare requiring minimum outlay for maintenance.

In the way of practical examples of this method of construction may be cited Park Heights avenue, Baltimore, which carries constant traffic of all types. A section of this street or road was resurfaced with stone and natural asphalt binder in 1910. Mr. H. G. Shirley, chief engineer of the Maryland State Roads Commission, stated a few weeks ago that the section referred to had had practically no maintenance in the last four years, and that he doubted whether there had been any expenditure prior to that time. This would mean a severe traffic test for a period of six years.

But the matter of cost is an extremely important factor in the resurfacing proposition. As previously stated, new roads designed to be of the most durable types cannot be built for less than \$12,000 per mile, while the average would doubtless be nearer \$16,000 per mile. It is necessary, therefore, that the resur-



EUSTIS ST., HUNTSVILLE, ALA. MIXED METHOD ASPHALT TOP (TWO-INCH) ON MACADAM BASE. BUILT 1913.

needless to say that they will meet every requirement where traffic is lighter, such, for example, as prevails on our more isolated stone and macadam highways. Now, as to ascertained costs:

In Bulletin 48, Office of Public Roads, entitled "Repair and Maintenance of Highways," construction cost data on eight sections of Maryland roads is given in tabular form showing that the work under the method described, which is known as the penetration method,



PARK HEIGHTS AVE., BALTIMORE, MD. ASPHALT-MACADAM (PENETRATION METHOD) OVER OLD MACADAM. BUILT 1910. NO MAINTENANCE TO DATE.

cost 64 cents per square yard. In the case of a road 16 feet wide this would represent a construction cost of about \$6000 a mile, which would be only a third of the cost of some types of new roads and not more than half the cost of the cheapest type of permanent highway it is feasible or possible to build. Resurfaced roads bound with natural asphalt are easily built. New York has highways of this type, one of them, the Waterford road, having been constructed in 1900. An-

pay, man
for entire
ber of States
e. Not only
it are carry-
ited States
character it is



METHOD
DAM BASE

equipment
as prevails
highways.

titled "Re-
duction cost
is given in
the method
on method.

SPHALT-
VER OLD
ANCE TO

of a road
on cost of
rd of the
ore than
highway
ed roads
t. New
hem, the
00. Ar

other heavy traffic highway is Merrick road, Long Island, which was built in 1910. Both roads have given excellent service. Massachusetts probably leads other States in mileage of resurfaced asphalt-bound roads, having resorted to the method for such heavily traveled thoroughfares as Hale street, Beverly, and the Weston road. The method has been successfully adopted in Ohio, Indiana and Florida, showing that roads of this type are not affected by climatic extremes.

Comparing a resurfaced road at \$6000 a mile with a new road costing \$12,000 a mile, the saving at 5 per cent. interest would in itself represent a further saving of \$300 per mile per year over the carrying charge on the \$12,000 new road. This economy would more than provide for maintenance on the resurfaced road. The little maintenance required would represent an outlay of only a few cents a square yard to keep the road in perfect repair. The Philadelphia Department of Public Works publishes figures from the Bureau of Highways showing cost on bituminous surface treatment in 1915, ranging between 3 and 6 cents per square yard. It is this form of treatment that would be employed in repairing the resurfaced road. This would consist of giving the road a coating of liquid asphalt and stone chips.

In a great many communities the taxpayers in touch with old stone roads are protesting against their abandonment through the substitution of costly roads entirely new from the foundation up, and the long-time tests on the roads already referred to show that there is no occasion to throw them away when they can be restored at such low cost.

Concerning methods of construction, the following is quoted from the 1914 report of the Bureau of Highways and Street Cleaning, Philadelphia, which describes the process of treating one of the city service test roads finished in 1913, and which has had no repairs up to date:

"This pavement was laid on the old macadam foundation, and consisted of three inches of 1½-inch trap rock spread and rolled, after which 1.8 gallons per square yard of Bermudez asphalt binder was applied by hand at a temperature of 350 degrees and covered with clean three-quarter-inch trap rock chips and rolled. A seal coat of .6 gallon per square yard of Bermudez asphalt binder was applied by hand at a temperature of 350 degrees and covered with clean half-inch trap rock chips and rolled."

It will be noted that on this road a seal coat was included, but on roads subject to lighter traffic a seal coat would not be necessary.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to cotton matters.

1000 Dozen Pairs of Hose Daily.

W. B. Davis & Son of Chattanooga have determined details for their branch mill (recently announced) at Attalla, Ala. They will build a one-story 150x60-foot brick mill structure costing \$8000, according to plans by Walter M. De Kalb of Chattanooga, and install machinery for a daily capacity of 1000 dozen pairs of hose, 200 operatives to be employed. The equipment will include 100 knitting machines, electric power drive, etc., costing \$15,000. Contract for erecting the building has been awarded to the Rodgers Construction Co. of Chattanooga.

Thread Mills Company Additions.

The Thread Mills Company, Monticello, Ind., has determined upon plans for additions to several of its mills in North Carolina. These may be briefly outlined as follows: German-American Mills, Draper, to build 332x330-foot addition to sheeting mill and 135x125-foot addition to blanket mill; Spray Woolen Mill,

Spray, to build two-story 150x75-foot addition and install three sets of cards, 24 looms and finishing machinery; Rhode Island Mills, Spray, to build additional story on cotton blanket mill and construct large bleacher; change all mills from steam power to electric drive.

\$300,000 Hosiery Mill Enlargement.

An investment of \$300,000 for an additional building and machinery has been decided upon by the Magnet Knitting Mills, Clinton, Tenn., mentioned in March as planning to build additions or install new equipment. J. D. Allsup & Co. of Chattanooga are the architects in charge, and the new building will be 250 feet long by 75 feet, of reinforced concrete construction. This building will have a monitor roof, steel sash, concrete floors, 200 new 200-gauge machines to manufacture seamless hosiery, direct connected power drive with individual electric motors, etc.

Meritas Mills' Big Addition.

Contract for building the recently-mentioned additional mill of the Meritas Mills, Columbus, Ga., has been awarded to T. C. Thompson & Co. of Charlotte, N. C. This new mill building will be 400 feet long by 125 feet wide and three stories high, to be equipped with 25,000 spindles and 500 broad looms. Lockwood, Greene & Co. of Boston and Atlanta are the architects-engineers in charge.

Will Add 5760 Spindles.

An equipment of 5760 spindles will be added by the Patterson Mills Co., Rosemary, N. C. It has purchased this new spinning machinery, the cost being \$35,000.

Textile Notes.

A. D. Baker, Raleigh, N. C., is reported as to build a cotton mill at Newton, N. C.

Union Manufacturing Co., Union Point, Ga., will not enlarge its hosiery mill; recent report was an error.

John N. Maxwell, Box 304, Hopewell, Va., plans an equipment of 100 knitting machines, with belt-drive power, for proposed hosiery mill recently mentioned.

W. H. Heffner, Bolivia, N. C., and others are interested in a plan to establish a knitting mill. He wants data on mills and prices on machinery.

South Bend Knitting Mills, Macon, Ga., will build a 100x40-foot addition, and has awarded contract for this new structure. Finishing machinery will be installed and the new equipment has been purchased.

Merrimack Manufacturing Co., Huntsville, Ala., will install 8960 additional spindles, and has awarded contract for this machinery, increasing its total of spindles to 103,008. There are 2579 looms in the Merrimack mill.

Lane Cotton Mills Co., New Orleans, will build a 135x110-foot slow-burning mill-construction addition with saw-tooth roof. George J. Glover is the contractor and Favrot & Lavaudais are the architects, both of New Orleans.

Cherry Cotton Mills, Florence, Ala., will add a cotton opener, a breaker lapper, two finishing lappers, 10 cards, four spoolers and a cone-winder. To displace old machinery the company will install 72 deliveries of drawing, 7 roving frames, 8 twiststers and 13 spinning frames. All this machinery has been ordered.

J. W. Yount, secretary-treasurer of the Catawba Cotton Mills, Newton, N. C., has purchased the Walterboro (S. C.) Cotton Mills, equipped for weaving cloth. The looms and accompanying equipment will be taken out and the mill will be arranged for manufacturing yarns only. It is the intention to install 20 twiststers, 2 spoolers and 2 balling attachments.

Ernaldson Manufacturing Co., St. Pauls, N. C., has organized to manufacture cotton yarn, the officers being as follows: A. R. McEachern, president; A. I. McDonald, vice-president; D. S. McEachern, secretary-treasurer. A 98x40-foot building has been secured and will be equipped with 624 spindles, etc., costing \$7500 and a power plant costing \$1800.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

Plan Suggested for Relieving Car Shortage.

New Orleans, La., April 10.—[Special.]—President Robert Downman of the National Lumber Manufacturers' Association fathers the suggestion and will propose a campaign to carry the suggestion into action, that the railroads charge one another the same per diem rental for the use of freight cars that the railroads now charge shippers. The purpose of this, Mr. Downman says, is to render the railroads more prompt in releasing rolling stock to the lines of origin.

The railroads charge one another an average of 45 cents a day. They charge shippers from \$1 to \$2 per day.

Mr. Downman, controller of large cypress acreages, is hopeful that the car shortage will be remedied as spring progresses.

The Interstate Commerce Commission is succeeding to a certain extent, it is stated, in getting the Eastern seaboard lines to release the equipment of Southern and Western roads that they have been holding for their own use.

This optimism is not shared so completely by pine mill owners and operators. The pinch in deliveries continues, and mills are still hard put to keep their stocks on hand down to reasonable totals and their deliveries anywhere near their orders and their production.

The same general situation continues that has hindered the trade for the past 90 days.

Porto Rico, Yucatan, Honduras, British Honduras and Guatemala all figured in the lumber exports of the past week, while Jamaica took a cargo of 157,979 feet of pine lumber.

The total of the Latin-American shipments was not large, but the number of ports of destination indicated the general movement.

To New York, by steamer, went 233,324 feet of pine lumber and three carloads of oak staves.

Liverpool took two shipments of implement handles and 1838 pieces of deckload lumber.

Taken all together, the week was nearly low record for export movement. Scarcity of bottoms is the ruling cause, coupled with England's practical embargo.

In Southern Pine Association circles interest centers upon the visits of the delegations of retail purchasers, which begin their tours this current week.

The week end in the association offices is devoted to clearing details for the various routings, which are being handled through the headquarters. Most of the delegations will include New Orleans in their itinerary.

Petroleum Holding Company Organized.

Formal announcement has been made of the organization of the Pan-American Petroleum & Transport Co. with \$150,000,000 capital stock. This company is to control the Mexican Petroleum Co., Ltd., 120 Broadway, New York; the Petroleum Transport Co., same address, and acquire operating companies in California and open to them as a unit, thus affecting a saving, and to acquire and operate oil properties in both Americas not yet developed. A new gusher well in Mexico, known as the Cerro Azul No. 4, is stated to have established a world record of 300,000 barrels production a day. This one well is valued at \$100,000,000, figured on a probable production of 1,000,000,000 barrels of oil. The holdings of the Mexican Petroleum Co., Ltd., comprise 600,000 acres of known oil lands, and are appraised by Dr. I. C. White, State Geologist of West Virginia, at \$294,321,000. The company is controlled by E. L. Doheny, president of the Mexican company. The board of directors includes Mr. Doheny, H. G. Wylie, N. Bridge and T. A. O'Donnell, all of the Mexican Petroleum Co., Ltd.; Thos. Cochran, E. R. Tinker, Eugene Meyer, Jr., G. G. Henry, Elisha Walker and Wm. Salomon & Co., 25 Broad street, New York, the last named of whom is handling the new company's stock. President Doheny estimates that by 1918 the sales of petroleum will have reached 30,000,000 barrels per annum.

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the postoffice will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

BRIDGES, CULVERTS, VIADUCTS

Fla., Miami.—Dade county votes May 9 on \$30,000 bonds to construct bridges. Address County Comms.

Fla., Miami.—City let contract M. F. Comer to construct piers and reinforced concrete portions and erect double-leaf bascule spans for 2 bridges over Miami River at 12th St. and Ave. D; contract price for former (exclusive of steel, which has been ordered for both bridges) is \$48,975 and for the latter \$55,191.25; cost of steel \$48,000, making total cost \$151,000; also received contract at \$2900 to build temporary timber bridge at 12th St.; lowest bidder at \$4500 to construct temporary bridge at Ave. D, but contract has not yet been let; with exception of bascule spans, both bridges are of concrete and reinforced concrete; 12th St. bridge will require 2700 cu. yds. concrete, 80,000 lbs. reinforcing steel and 350,000 lbs. structural steel; Ave. D bridge, 2100 cu. yds. concrete, 80,000 lbs. reinforcing steel and 420,000 lbs. structural steel; Harrington, Howard & Ash, Consult. Engrs., 1012 Baltimore Ave., Kansas City, Mo.; W. B. Moore, City Clerk. (Call for bids lately noted.)

Ga., Albany.—Dougherty County Comms. let contract Southern Bridge Co. of Birmingham, Ala., at \$2293 to construct steel bridge across Kinchafoonee Creek; steel; concrete floor and pillars; length, 214 ft.; 29 ft. roadway.

Ga., Leesburg.—Lee County Comms., E. J. Stocks, Chrmn., will expend \$5000 on bridge construction. (Bonds lately noted voted.)

Ky., Marion.—Crittenden County Comms., Marion, and Union County Comms., Morganfield, Ky., contemplate constructing bridge across Tradewater River between 2 counties; estimated cost \$18,000.

Ky., Morganfield.—Union County Comms., L. C. Flournoy, Prest., will build iron bridges in connection with construction of 110 mi. gravel road. (See Road and Street.)

Ky., Paducah.—McCracken county will construct 30-ft. concrete bridge on Clark line road and 18-ft. concrete bridge on Hinkleville Rd.; Gus G. Singleton, County Clerk, receives bids until May 2. (See Machinery Wanted—Bridge Construction.)

Md., Easton.—Talbot County Comms. contemplate issuing bridge bonds.

Md., Havre de Grace.—Havre de Grace & Pennsylvania Bridge Co. increased capital from \$50,500 to \$500,000.

Miss., Macon.—Noxubee County Suprs. let contract L. C. Cline at \$2300 to construct brick culvert.

N. C., Burgaw.—Pender County Comms. engaged W. H. Bank Engineering Co. of Wilmington to supervise construction of bridge across Northeast River at Lane's Ferry, 35 mi. from Wilmington; length, 519 ft.; steel; 16-ft. driveway; design includes fixed and draw spans; construction contract let Virginia Bridge & Iron Co., Roanoke, Va., at \$18,801, as lately noted.

Okla., Chickasha.—Grady County Comms. contemplate construction concrete arch across Line Creek; cost \$5000.

Tenn., Chattanooga.—Cincinnati, New Orleans & Texas Pacific Ry., C. Dougherty, Ch. Engr., Cincinnati, O., will construct bridge across Tennessee River to replace collapsed structure; steel and concrete or stone; length, 2000 ft.; bascule lift span; cost, \$1,000,000; American Bridge Co., 30 Church St., New York, has contract for portion of work and will probably receive entire contract. (Lately noted.)

Tenn., Jonesboro.—Washington County Comms. appropriated \$9000 to construct bridge across Chucky River.

Tenn., Kingston.—Roane County Court let contract Luton Bridge Co. of Knoxville, Tenn., and York, Pa., at \$55,400 to construct bridge over Emory River; total estimated cost \$70,000.

Tenn., Tullahoma.—Coffee County Court appropriated \$3000 to construct bridge across Rock Creek in West Tullahoma and across Big Spring Creek in North Tullahoma.

Tex., Austin.—City Comms. appropriated \$60,000 to construct and maintain sewers and bridges; M. C. Welborn, City Engr. (Noted in March as contemplating storm sewer construction to cost \$50,000.)

Tex., Houston.—Harris county is having plans prepared by W. H. Thatcher, County Engr., for new bridge across Brays bayou; cost about \$40,000.

Va., Blackstone.—S. L. Barrow, care First National Bank of Blackstone, receives bids until Apr. 20 to construct steel superstructure of bridge 203 ft. long over Nottoway

River between Nottoway and Lunenburg county at the Falls; G. P. Coleman, State Highway Commr., Richmond. (See Machinery Wanted—Bridge Construction.)

Va., Brookneal.—Halifax county will construct steel and concrete approaches 240 ft. long to bridge over Staunton River near Brookneal; County Clerk, Houston, Va., receives bids until April 21. (See Machinery Wanted—Bridge Construction.)

Va., Rocky Mount.—Franklin county will construct steel bridge 81 ft. long over Blackwater Creek at Deyleres Ford; bids at County Clerk's office until Apr. 24; G. P. Coleman, State Highway Commr., Richmond. (See Machinery Wanted—Bridge Construction.)

W. Va., Summerville.—Nicholas County Comms. will construct 2 reinforced concrete arch bridges; bids until May 9; R. P. Davis, Bridge Engr., State Road Bureau; noted in March. (See Machinery Wanted—Bridge Construction.)

CANNING AND PACKING PLANTS

Ark., Bentonville.—L. A. Hawkins will install cannery, 10,000 capacity; erect 50x60-ft. building with 2-story storage 36x56 ft.; will add apples and sweet potatoes to list of canned goods.

Miss., Biloxi.—Ernest Desporte, Jr., contemplates erecting cannery on Back Bay.

Okla., Enid.—Enid Meat Packing Co., 120 N. Washington St., acquired building and machinery of Enid Wholesale Meat Co.; converts into packing plant with daily capacity 10 cattle and 25 hogs; J. E. Bridges, Prest.; R. F. Randolph, V.-P.; H. L. Reid, Secy.; Messrs. Reid & Bridges, Mgrs. (Lately noted inceptd., capital \$15,000.)

Va., Cloverdale.—Cloverdale Packing Co., capital \$10,000, inceptd.; W. P. Crumpacker, Prest.; B. F. Moorman, Secy.-Treas., Cloverdale; operate canned foods plant; annual capacity about 35,000 cans; plant equipped.

CLAYWORKING PLANTS

N. C., Statesville.—Clay and Hollowware.—Buffalo Shoals Clay Mfg. Co., capital \$125,000, inceptd. by J. C. Steele & Sons and E. R. Rankin; purchased 263 acres on Catawba River in Shiloh township; will build plant to manufacture clay and hollowware.

CLAYWORKING PLANTS

S. C., Columbia.—Paving Bricks.—Titus Clay Products Co., E. H. Titus, Prest., New York, reorganized Granite Brick Co. of Dilver Lake, S. C.; plans to enlarge plant and install additional equipment, increasing present daily output of 50,000 bricks.

COAL MINES AND COKE OVENS

Ala., Empire.—W. B. Reynolds of Montevallo, Ala.; E. D. Reynolds of Blocton, Ala.; H. C. Reynolds of Tampa, Fla., and T. H. Benners of Birmingham, Ala., acquired 1000 acres coal land in Empire section and will develop.

Mo., St. Louis.—Washington Coal Co., capital \$10,000, inceptd. by W. A. Lafont, Trem Cart and E. J. Burgard.

Mo., St. Louis.—Laclede Coal Co., capital \$10,000, inceptd. by V. M. Henderson, John Henderson and others.

W. Va., Sutton.—Sutton Fuel Co. inceptd. by J. V. Tully, Lee Rader, Carey C. Hines and others.

COTTON COMPRESSES AND GINS

Tex., Cuero.—Cuero Compress & Warehouse Co., V. J. Grunder, Mgr., will erect pickery and loosehouse, and enclose fireproof and boilers within brick wall; has erected 96x180-ft. shed over center wharf; cost of this season's improvements about \$9000.

Tex., Gonzales.—Farmers' Gin Co. will operate plant of 150 bales daily capacity; M. J. Koch, Prest.; H. W. Matthews, V.-P.; D. Stahl, Secy.; F. Vrazel, Mgr. (Lately noted organized, capital \$15,000, and as purchasing and improving Vrazel mill.)

COTTONSEED-OIL MILLS

N. C., Lagrange.—L. A. Smith of Newbern contemplates building cottonseed-oil mill and ice factory.

Okla., Kingston.—Kingston Cotton Oil Co.,

capital \$12,000, inceptd. by C. C. Chestnut, A. O. Duncan and Lula Chestnut.

S. C., Charleston.—Economy Oil Mill increased capital from \$3000 to \$5000.

S. C., Charleston.—Charleston Oil Co., lately noted as considering increase in capital stock to \$10,000, does not manufacture cotton seed products; deals in mineral oils.

S. C., Ware Shoals.—Ware Shoals Mfg. Co. will build 2-press cottonseed-oil mill; let contract for complete design and equipment to American Machine & Mfg. Co., Greenville, S. C.

Tex., Dallas.—Cottonseed Oil Co. of Texas, Geo. Dashner (Mgr.), Chickasha, Okla., and associates, owners, will build 6-press cottonseed-oil mill; invest \$150,000; 1 story brick mill and frame warehouses; standard mill construction; let contract for complete design and equipment to American Machine & Mfg. Co., Greenville, S. C.

Tex., Galveston.—Southern Products Co. will expend about \$40,000 for improvements to cotton concentration sheds; let contract Eubank & Dillrell of Galveston to build additional sheds reinforced concrete construction, to provide storage for 10,000 bales cotton and install high-density compress.

DRAINAGE SYSTEMS

Ark., Earle.—Drainage Dist. No. 3, D. B. Woolard, Chrmn. Comms., Clarkdale, Ark., engaged Willis E. Ayres of Memphis, Tenn., as engineer for drainage system; district comprises 38,000 acres north of Earle; 55 mi. of canals; dredge work; issue \$225,000 bonds. (Noted in Mel.)

Ky., Calhoun.—W. A. Thomas Drainage Dist. survey is completed; plans and specifications are at office of McLean county clerk, Calhoun; 899 acres in district; will construct 4 mi. open ditch; E. T. Hart, Engr., Calhoun. (Lately noted.)

ELECTRIC PLANTS

Ala., Birmingham.—City votes June 5 \$500,000 bonds to build electric-light plant. Julian Kendrick, City Engr.

Ala., Marion.—Marion Military Institute let contract for electric-light plant.

D. C., Washington.—Potomac Electric Power Co. has plans by J. G. White Engineering Corp., 43 Exchange Pl., New York, for extensions; will install 15,000 K. W. horizontal turbine with surface condenser and auxiliaries, piping, etc.; ordered turbine and electrical equipment; building extension to consist of addition, 54x62 ft., the full width and height of engine-room; building frame of structural steel carrying heavy crane runway; superstructure of special concrete blocks with granite surface; design and construction by J. G. White forces; all machinery, apparatus, structural and building materials, etc., under contract. (Noted in January as to invest \$650,000 to enlarge and add machinery to Benning plant; addition to require 70 tons steel; lay new mains, construct conduits, install transformers and meters, etc.)

Fla., Clearwater.—Clearwater Lighting Co., W. G. Eager, Gen. Mgr. (also Gen. Mgr. Valdosta Lighting Co., Valdosta, Ga.), will erect brick building for electric and ice plant; was lately noted as purchasing and to improve established plant. (See Ice and Cold-storage Plants.)

Fla., Jacksonville.—Bond Trustees, Gustav Muller, Act. Chrmn., ask bids until Apr. 20 to install water-softening apparatus, daily capacity 24,000 gals., for use in connection with city electric-light plant. (See Machinery Wanted—Water Softening Plant.)

Fla., Ocala.—City let contract Benj. Thompson Co. at \$97,254.50 to construct combined electric-light and water plant; Twombly & Henney, Engrs., 55 Liberty St., New York. (See Water-works.)

Ga., Metter.—City, Geo. L. Williams, Mayor, will construct electric-light plant; \$8500 bonds lately noted. (See Machinery Wanted—Electrical Equipment.)

Ky., Lagrange.—Adams & Co., Sulphur Springs (R. D. from Narrows), Ky., purchased electric-light franchise; will improve local plant.

Mo., Emma.—Chas. Dierking and others are interested in construction of transmission line from Sweet Springs (Mo.) electric plant to furnish light and power to Emma.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Okl., Altus.—City Light Dept., 113 E. Broadway, Chas. H. Welch, Supt., will re-build distributing system and extend plant; has all material; J. S. Harnes, Engr. (Lately noted to improve system.)

Okl., New Wilson.—City, C. W. Henson, (Terk. will issue \$25,000 bonds voted in February) for electric-light plant and water-works construction. (Lately noted.)

Tenn., Dyersburg.—City contemplates improvements to electric-light plant, to include installation of new engine, hot-water meter, cold-water meter, ornamental lamp posts and 2 mi. of transmission line; also plans extension of water system; S. R. Blakeman, Supt.

Tex., Dallas.—City voted \$500,000 light bonds; Hal Moseley, City Engr.

Tex., Mertens.—Texas Power & Light Co., Dallas, Tex., will make 5-mi. extension, Mertens to Irene; has purchased materials. (Lately noted.)

Tex., Victoria.—City engaged engineer to prepare estimates of cost of electric-light plant. Address The Mayor.

Va., Mineral.—City votes Apr. 29 on \$10,000 bonds to construct electric-light and water systems. Address The Mayor.

FLOUR, FEED AND MEAL MILLS

N. C., Laurinburg.—Hammond Co. increased capital to \$100,000 and will operate flour mill.

S. C., Sumter.—Sumter Flour Mills organized with Perry Moses, Sr., Pres.; G. A. Lemmon, V.-P.; E. I. Reardon, Secy.; J. W. McDonald, Supt.; will increase capital; build 30x30-ft. ordinary-construction flour mill; daily capacity 50 bbls.; contracts let. (Lately noted.)

Tex., Galveston.—Texas Star Flour Mills let contract J. W. Ziemper to erect fifth story to mill; 60x68 ft.; for offices; cost \$15,000; plans by A. J. Bellis; portion of building now used for offices is understood to be equipped with mill machinery.

FOUNDRY AND MACHINE PLANTS

Ala., Mobile.—Mill Machinery.—Mill Machinery Co., capital \$500,000, inceptd. by Ashbel Hubbard, Pres.; W. P. Barnes, V.-P. and Sales Mgr.; L. G. Adams, Treas. and Gen. Mgr.

Ga., Fitzgerald.—Iron Foundry.—Fitzgerald Iron Works, capital \$30,000, inceptd. by E. N. Davis, W. J. Jewell and S. C. Davis.

Ky., Louisville.—Ice Machinery.—Adam Vogt and Clarence Vogt plan organization company to manufacture ice and other machinery; proposes buying foundry and machine plant at 1402 W. Main St.; build additions and install additional new machinery.

Mo., St. Louis.—Crusher and Pulverizer.—Williams Patent Crusher & Pulverizer Co. let contract Chas. B. McCormack & Sons to erect addition 50x150 ft.; 3 stories, each about 19 ft. high; reinforced concrete.

N. C., Charlotte.—Electrical Machinery.—Charlotte Electric Repair Co., W. A. Lawrence, Pres., and Chas. E. Barker, Secy., Mgr., will erect 150x50-ft. 1-story concrete building; construction by the company; has purchased machinery; armature-winding and electrical machinery repairing and rebuilding. (Lately noted.)

Okl., Hobart.—Steam Separator.—Armstrong Steam Separator Co., capital \$100,000, inceptd. by Cudellus Armstrong, John D. Appleby, O. B. Motherhead and F. H. Miller.

Tenn., Memphis.—Cotton Pickers.—Southern Cotton Picker Co., G. P. Schlocker, Secy.-Treas., will equip plant to manufacture cotton-picking machines; install 1 H. P. gasoline engine, etc. (See Machinery Wanted—Engine; Bavel Gears; Tubing, etc.)

Va., Goshen.—Motor Pumps.—Heins Motor Pumps Co., Fort Wayne, Ind., will build plant; T. O. Nelson, Fort Wayne, Ind., wires Manufacturers Record; Plant 75x45 ft.; 1 floor; concrete construction; estimated cost of building and equipment, \$400,000; manufacture farm implements, principally motor pumps. (Lately reported to build.)

Va., Goshen.—Iron Ties.—Nelson-Myer Tie Co., Fort Wayne, Ind., will build plant; T. O. Nelson, Fort Wayne, Ind., wires Manufacturers Record; Building 92x62 ft.; 1 floor; concrete construction; estimated cost of plant with equipment, \$350,000; manufacture steel and iron products, principally iron railroad ties. (Lately reported to build.)

Va., Norfolk.—Button Machines.—Kelly Button Machine Co., capital \$30,000, inceptd. by John Kelly, Pres.; H. M. Kerr, V.-P.; J. B. Moss, Secy.-Treas.; Willard P. Sullivan, Gen. Mgr.; having button machines built by contract; not decided when will build factory.

W. Va., Point Pleasant.—Marine Engines, etc.—Marietta Mfg. Co. (main office address, Marietta O.; later, Point Pleasant) let contract C. B. Kimberly Co., Wheeling, W. Va., to erect 100x250-ft. mill-construction building; cost \$25,000; plans by Contr.; will remove and install equipment from old plant; manufacture steamboat engines and miscellaneous machinery; W. A. Windsor, Pres.; C. E. Watson, Secy.

GAS AND OIL ENTERPRISES

Fla., Tampa.—Gas.—West Tampa Gas Co. will construct 3 additional mi. of gas mains.

Mo., Kansas City.—Motor Oil & Gas Co., capital \$15,000, inceptd. by Paul J. Neff, John M. Sells and E. H. Jones.

Okl., Dewey.—Waite Drilling Co., capital \$20,000, inceptd. by M. M. Waite, L. C. Waite and Grade Waite

Okl., Holdenville.—Hughes & Seminole Counties Oil Co., capital \$10,000, inceptd. by Wm. J. Ryan, Susie C. Peters and Ella Ryan.

Okl., Jennings.—Jennings Development Co., capital \$300,000, inceptd. by E. B. Ham, B. A. McFarland and G. H. McElroy.

Okl., Muskogee.—Pipe Line.—Crown Pipe Line Co., capital \$250,000, inceptd. by J. B. Gregory, A. A. C. Scherbel, Muskogee; Jas. H. Barr, New York.

Okl., Muskogee.—Cunningham Oil & Gas Co., capital \$150,000, inceptd. by T. J. Whitefield and A. B. Cline of Muskogee and B. U. Cunningham of Drumright.

Okl., Oklahoma City.—Partnership Oil Co., F. L. McInnis, Pres. and Gen. Mgr., will build about 7 mi. 3-in. pipe line; leased 200 acres with 4 wells south of Mountain View; date not set, but will probably open bids within 90 days on pumping station, drilling machinery and piping.

Okl., Oklahoma City.—Gasoline.—Tower Gasoline Co., capital \$25,000, inceptd. by L. Z. Harrison, J. Harrison and S. C. Harrison.

Tex., Marlin.—Gas.—C. E. Meroney, Mart, Tex., and others plan to build gas plant.

W. Va., Charleston.—Torch Light Oil & Gas Co., capital \$200,000, inceptd. by L. C. McKim, G. W. Stage, T. C. Gilmore and others.

W. Va., Huntington.—Huntington Development & Gas Co. plans merger with Guyandot Land Assn., Lincoln County Land Assn., Interval Oil & Gas Co., Four-Mile Oil Co., Duval Oil Co., Irvine Coal Co., Mingo Coal Co. and Virginia Investment Co.; new capitalization \$5,000,000, with authorized bond issue \$30,000,000; properties include 330,000 acres coal, oil and gas land in Lincoln, Logan, Cabell, Mingo, Putnam and Wayne counties; also leases on 6000 acres; 288 producing wells; plans involve continuation and extension of developments.

HYDRO-ELECTRIC PLANTS

Tenn., Livingston.—Livingston Light & Power Co. (John and S. O. Kennedy), S. O. Kennedy, Gen. Mgr., will install hydro-electric plant on Roaring River, 6 mi. from Livingston; initial installation 75 K. W. 60-cycle alternator, operated by water-wheel under about 40-ft. head; flume about 1000 ft.; dam 4 ft. high, across (about) 125-ft. stream; build transmission line for 6600 or 11,000 volts; supply electricity to Livingston and perhaps later to Monroe; has purchased small distributing transformers, generator, switchboard and exciter; may let contracts to construct dam and flume and power-house buildings; construction of transmission and distribution lines by the company; lately noted organized and as leasing waterfalls. (See Machinery Wanted—Electrical Machinery.)

Tex., Gonzales.—Gonzales Water Power Co. invites bids until Apr. 29 to complete dam on Guadalupe River; steel piling, necessary machinery and quantity of material on ground; Frank S. Taylor, Const. Engr., Scarbrough Bldg., Austin, Tex. (See Machinery Wanted—Dam Construction.)

PROPOSAL ADVERTISEMENTS IN THIS ISSUE

PUBLISHED ON PAGES 84 and 85

In order to secure best bids from leading engineers, contractors and investment houses, the proposal advertising columns of the Manufacturers Record are invaluable.

Rate 20 cents per line per issue.

When Proposal Advertisements cannot be sent by mail in time to secure insertion before date for opening bids, please wire advertisement copy by Night Letter.

Proposal Advertising must reach us not later than 9 A. M. Wednesday for publication in issue of that week.

Okl., Okmulgee.—E. R. Black Drilling & Development Co., capital \$500,000, inceptd. by E. R. Black, O. B. McCrory and H. E. Kennedy.

Okl., Okmulgee.—Milford Oil Co., capital \$12,000, inceptd. by Wm. C. Newman, Chas. R. Risor and D. Richardson.

Okl., Okmulgee.—Patterson Oil & Gas Co., capital \$16,000, inceptd. by J. W. Kiehl, J. A. Kennedy and Lee A. Voorhels.

Okl., Okmulgee.—Warden Oil Co., capital \$2300, inceptd. by Lee Whitmer, W. O. Bassett and J. M. Warden.

Okl., Pond Creek.—National Oil Fields Co., capital \$10,000, inceptd. by C. J. Taylor and W. H. C. Taylor.

Okl., Ringling.—Norfleet Oil & Gas Co., capital \$25,000, inceptd. by A. A. White, Joe Bryan and C. D. Carter.

Okl., Skiatook.—Sand Creek Oil Co., capital \$25,000, inceptd. by G. E. Holtsclaw, L. A. O'Brien and P. D. Frisby of Skiatook and J. A. Frisby of Morrilton, Ark.

Okl., Sapulpa.—Gasoline.—Brighton Gasoline Co., capital \$30,000, inceptd. by L. H. McClung, D. A. McDougal and C. A. Vaughn.

Okl., Tulsa.—Paramount Petroleum Co., capital \$25,000, inceptd. by A. T. Bailey, C. W. Spangler and E. C. Harrison.

Okl., Tulsa.—Parkdale Oil & Gas Co., capital \$100,000, inceptd. by Geo. S. Berry, G. S. Hart and H. E. Johnson.

Okl., Tulsa.—Consumers' Oil Co., C. B. Shaffer, Pres., plans consolidation with several other similar corporations; capitalization to be \$16,750,000.

Tex., Crockett.—Sager Oil & Gas Co., capital \$20,000, inceptd. by J. A. Sager, L. B. House and W. D. Plunkett.

Tex., Fort Worth.—Birmingham Oil Co., capital \$50,000, inceptd. by J. J. Parker, R. L. Parker and R. B. Parker.

Tex., Houston.—Houston Petroleum Co., capital \$60,000, inceptd. by S. H. Huston, Geo. A. Byars and J. V. Dealy.

ICE AND COLD-STORAGE PLANTS

D. C., Washington.—Washington Market Co., Center Market, Pennsylvania Ave. and 7th St. N. W., will build cold-storage warehouse for apples; 6 stories; 90x100 ft.; exterior of pressed brick; interior of reinforced concrete and insulating materials; fireproof throughout; capacity 40,000 bbls.

Fla., Clearwater.—Clearwater Lighting Co., W. G. Enger, Gen. Mgr. (also Mgr., Valdosta Lighting Co., Valdosta, Ga.), will erect brick building for electric and ice plant; installing pumps and equipment; has let contract for 25-ton compression ice machine; lately noted. (See Electric Plants.)

Fla., De Land.—De Land Electric Light, Power & Ice Co., E. L. Hon, Mgr., has plans for improvements to include 50-ton ice factory with cold-storage; reported machinery contracts will be let in Sept.

Miss., D'Lo.—Mr. De Liles and others will organize company to establish ice factory and bottling works.

Mo., Marston.—Marston Light Co., Ed Bishop, Mgr., contemplates building 3 or 5-ton ice factory to connect with electric-light plant.

N. C., Lagrange.—L. A. Smith of Newbern, N. C., contemplates building ice factory and cottonseed-oil mill.

Okl., Commerce.—Commerce Ice Co. will build ice plant; 33x60 ft.; cost \$10,000.

Okl., Crowder.—Canadian Valley Ice, Light & Fuel Co., capital \$49,000, inceptd. by H. E. Crowder and R. A. White, Crowder; W. W. Winston and Clark Nichols, Hanná, Okla.

S. C., Florence.—Carolina Central Electric Co. acquired Florence Ice Co.; will enlarge and add cold-storage plant. (Florence Ice Co. lately noted to erect 3-story brick cold-storage plant with capacity of 20 to 25 carloads of meat or other produce.)

S. C., Summerville.—Carolina Central Electric Co., Florence, S. C., purchased Summerville Ice & Power Co.'s plant for about \$50,000 and is reported as planning enlargement.

Tenn., Chattanooga.—H. V. Kell & Co., Griffin, Ga., is reported to erect store and warehouse building and install refrigerating plant.

Tex., Big Springs.—A. C. Murray of Clarks-ville, Tenn., and others will improve and enlarge Big Springs Ice & Mfg. Co.'s plant; install machinery and build 1500-ton ice-storage and cold-storage plant. (Lately noted to have purchased Big Springs Ice & Mfg. Co.'s plant and to improve.)

Tex., Carthage.—Carthage Ice & Light Co. plan to install 30-ton refrigerating machine and ice-making system to connect with electric-light station.

Tex., Dallas.—Plus Siaz of Cincinnati, O., will build 15-ton ice plant; has let contract for raw-water ice-making system.

Tex., Greenville.—Greenville Ice & Fuel Co. organized; F. N. Hopkins, Pres.; C. M. Portwood, V.-P.; G. M. Hodges, Secy.-Mgr.; occupy buildings formerly of Greenville Ice Co.; daily capacity 30 tons ice. (Lately noted inceptd., capital \$15,000.)

Va., Abingdon.—J. T. Nelson, representing Southland Development Bureau, Roanoke, Va., is promoting erection of ice factory, cold-storage plant and creamery.

Va., Danville.—General Hospital will install cold-storage room. (See Machinery Wanted—Cold Storage.)

Va., Massies Mill.—Nelson County Cold Storage Co., capital \$50,000, inceptd.; John J. Jennings, Pres.; L. W. Meeks, Secy.

Va., Richmond.—Richmond Cold Storage, Eugene Robinson, Propr., 18th and Clay Sts., will erect fireproof reinforced concrete building; 5 stories and basement; 500,000 cu. ft.; size 89 ft. 10 1/2 in. by 113 ft. 9 in. by 72 ft. high; cost \$30,000; erection by the company; install cold-storage machinery; David I. Davis & Co., Chicago, Ill., Constr. Engrs.; purchases practically made.

W. Va., Parkersburg.—Parkersburg Ice & Coal Co. will enlarge plant and install tri-pure water-filtration plant.

IRON AND STEEL PLANTS

Ala., Anniston.—Iron Furnaces.—Woodstock Operating Corp. leased iron furnace properties from Woodstock Iron & Steel Corp., J. B. Carrington, Pres., who advises Manufacturers Record; Details as to officers, etc., not fully decided upon.

Tenn., Clarksville.—Iron Furnace.—Red River Furnace Co. has blown in Helen iron furnace.

Va., Hopewell.—Steel Plant.—Walter Sachs, Petersburg, Va., wires Manufacturers Record. Plant to cost \$2,000,000 practically assured; annual capacity 400,000 tons; Richard Eppes, J. L. Vaughan, T. F. Heath, M. A. Finn, R. H. Mann and Walter Sachs, all of Petersburg, interested in initial payment at once; Norfolk & Western R. R. offers good inducements; W. R. Miller, Engr., of W. R. Miller Co., Pittsburgh, Pa.; plant location has water front; 150 acres secured.

W. Va., Charleston.—Electric Steel Furnaces.—Charleston Steel Co., authorized capital \$400,000, inceptd.; offices in Kanawha National Bank; Pres. H. G. Scott, Pres. of Virginian Power Co.; Treas., Isadore Schwabe; Secy., Edw. M. Burdette; each of Charleston; V.-P., J. G. H. Hamilton of Hamilton & Hansell, New York and Stockholm, American Agt. for Rennerfelt electric furnaces manufactured in Sweden; purchased and will install 2 electric furnaces with daily capacity 75 gross tons; let contracts to American Bridge Co., 30 Church St., New York, to construct buildings; plant cost \$150,000; equipment mainly second-hand, new machinery not being obtainable for many months; use large quantity natural gas and electricity; manufacture from scrap metal; electric power from Virginian Power Co.

LAND DEVELOPMENTS

Ark., Newport.—Jackson County Pecan Farms Co. will develop 180 acres; plant pecan trees; Chas. E. Carroll, Pres.; G. Hunt, Secy.-Treas. (Lately noted inceptd., capital \$4000.)

Fla., Bartow.—Poinciana Development Co., capital \$50,000, inceptd.; G. C. Schofield, Pres.; Geo. F. Gates, V.-P.; Sam E. Gregg, Secy.; W. Frost Brown, Treas.

Fla., Lakeland.—Interstate Land & Investment Co., Bert E. Betts, Secy. (In Dec., 1915, noted inceptd., capital \$25,000), is promoting sale (for Florida Natal Hay Assn.) of 5000 acres land in Hernando county; 40-acre tracts, planted to Natal hay; development

estimated at \$375,000; each tract to be fenced, and contain 40x100-ft. hay shed; company will receive bids on construction of 125 sheds. (See Machinery Wanted—Farming Machinery.)

Fla., Lakeland.—Lakeland Golf Assn. will improve 140 acres on Scott Lake, 6 mi. from Lakeland; golf and country club, including boating, golfing, tennis, bathing, etc.; now clearing ground; will build clubhouse; Bert E. Betts, Pres.; G. E. Southard, V.-P.; C. B. Antisdel, Secy.; C. M. Clayton, Treas. (See Machinery Wanted—Golf Supplies, etc.)

Md., Brooklyn.—John K. Culver, 1031 Munsey Bldg., Baltimore, Md., will develop as building lots (1000) 100 acres of 565-acre tract on Patapsco River; tract extends about 1 mi. along river and inland to Baltimore & Annapolis Blvd.; construct streets and avenues; lay concrete pavements; improvements require removal thousands cu. yds. dirt; has let contract to H. Emory Gray, 1st St. and Patapsco Ave., Brooklyn; has not yet made definite plans for development along waterfront. (Noted in Jan.)

Miss., Purvis.—The Purvis Co. Incptd. by T. W. Davis of Purvis, C. M. Ackerman of New York, C. F. Schultz and J. Frank Little of Grottos, Va.; purchased 16,000 acres cut-over land and will develop for colonization.

Mo., Joplin.—Thomas Fruit Co., capital \$200,000, Incptd. by A. B. Thomas and C. A. Thomas of Joplin and C. W. Thomas of Carthage, Mo.; A. B. Thomas, Pres.

Mo., St. Louis.—Wood-Smith Farms Co., capital \$2000, Incptd. by G. F. Wood Smith, F. A. Schmid and Marie D. Krenkel.

Okla., Enid.—City defeated \$25,000 bond issue for park improvements. John R. Clover, Mayor. (Lately noted.)

S. C., Columbia.—Grand Central Land & Truck Co., capital \$100,000, Incptd. by Norton W. Brooker, Norton W. Brooker, Jr., and A. Fuller Brooker; plans involve land development, highway system, bridging Congaree and Wateree rivers, etc.

Tenn., Chattanooga.—East Side Land Co., 120 E. 7th St., Incptd., capital \$25,000; Chas. E. Watson, Pres.; J. W. Clift, Secy.-Treas.; develop 25 acres east of city limits; cost of developments about \$20,000; W. L. Dodd, Engr., Chattanooga.

Tex., Dallas.—City voted \$250,000 bonds to park property in front of Dallas Union Station; Hal Moseley, City Engr.

Tex., Port Arthur.—Model Improvement Co., capital \$250,000, Incptd. by W. B. Dunlap (Pres. Gulf National Bank), P. A. Heisig (Pres. Heisig & Norvell) and Jas. L. Keith (Pres. Keith Shoe Co.), all of Beaumont, Tex.; purchased 300 acres at Port Arthur and will develop as residential section; construct shell streets, etc.

Va., Norfolk.—Forest Heights Corp., capital \$30,000, chartered; A. J. Phillips, Pres., Portsmouth, Va.; Allan Benny, Secy., Norfolk.

Va., Roanoke.—Carroll Development Co., capital \$50,000, Incptd.; E. A. Schubert, Pres.; M. M. Caldwell, V.-P.; Geo. W. Chaney, Secy.-Treas.; develop 40,000 acres in Carroll, Grayson, Wythe and Pulaski counties; conduct prospect work at present; expend \$10,000; Wm. McGovern, Engr.

W. Va., Williamson.—Land Sales Corp., capital \$15,000, charter by E. F. Randolph, John Strosnider, J. M. Smith and others.

LUMBER MANUFACTURING

Ala., Northport.—Hughes & Holman will rebuild mill burned at loss of \$7000.

Ala., Mobile.—Bahamas Timber Co. will build planing mill.

Ala., Selma.—Tallapoosa Lumber Co., capital \$5000, Incptd. by L. M. Hooper, J. E. Axford, C. R. Reed and J. A. Reed.

Ark., Clinton.—Chess & Wymond Co., Louisville, Ky., purchased 6000 acres white-oak stave timber in Van Buren county and will build 2 additional stave mills, at Clinton and Arlberg, Ark.

Ark., Geridge.—Geridge Lumber Co., capital \$25,000, Incptd. by G. W. Allport, Ernest Albrecht and M. A. Jones.

Ark., Jasper.—Hassenphlyg Lumber Co. is reported to rebuild sawmill burned at loss of \$8000.

Ark., Warren.—Southern Lumber Co. let contract J. W. Kyle of Warren to build dry-kilns; use 350,000 bricks.

Ark., Ultima Thule (P. O. at De Queen).—Geo. S. Scott will build sawmill with daily capacity 30,000 ft. lumber.

Fla., Lake Ann, P. O. at Bartow, Fla.—E. T. Roux & Son, Plant City, Fla., will install lately-noted sawmill; plant and equipment

to cost about \$100,000; construction by the company; all contracts let.

Fla., Micanopy.—Franklin Lumber Co. will build mill.

Ga., Folkston.—Georgia-Florida Investment Co., J. V. Gowen, V.-P. and Mgr., will erect sawmill with daily capacity 10,000 ft.; install steam operating machinery, cost \$2000; company conducts naval stores business, also sawmilling, crossties, etc. (Lately noted to rebuild burned sawmill.)

Ky., Lenox.—Lenox Sawmill Co., noted in Mar. (under Ky., Frankfort, and Ky., Morgan county—2 items) incorporated with capital of \$300,000, has organized; W. S. Whiting, Pres.; W. D. Johnston, Pittsburgh, Pa., V.-P.; M. E. Miller, Secy.; C. K. Heywood, Treas.; building broad-gauge road; has mill building, 30 houses and commissary; expects to purchase band-mill equipment. (See Machinery Wanted—Sawmill.)

La., St. John the Baptist Parish.—Luther & Moore Lumber Co., Orange, Tex., purchased 10,000 acres cypress timber land in St. John the Baptist parish; will manufacture timber at Luther (La.) mill.

Miss., Tylertown.—Lowell Bros. will rebuild burned sawmill.

N. C., Dundarrach.—W. J. Johnson of Red Springs, N. C., organized company to build sawmill; purchased 25 acres.

N. C., Salisbury.—R. R. Perry will install woodworking and ironworking machinery to cost \$1000; capacity of plant 12,000 ft. lumber daily. In Feb. noted to rebuild burned sawmill.)

N. C., Southport.—South Hill Mfg. Co., South Hill, Va., will build sawmill; daily capacity 15,000 ft.; develop timber tract in Brunswick county.

Tenn., Chattanooga.—American Hame & Singletree Co., 618 Sidney St., E. A. Wright, Secy.-Mgr., will install sawmill to manufacture raw material for hame, singletree and doubletree manufacture.

Tex., Hemphill.—Knox Lumber Co. is erecting wood and steel building; Hiram Knox, Pres. (also Pres. Lufkin, Hemphill & Gulf Ry.), advises that capacity will be 150,000 ft. and that postoffice will be established upon completion of railroad; Mr. Knox was noted in January as awarding building contract to C. H. Williams of Hemphill and machinery contract to D. J. Murray Mfg. Co., Wausau, Wis.; machinery cost \$250,000; electrical contract not yet let. (See Machinery Wanted—Electrical Supplies.)

Tex., Lovelady.—Smith Lumber Co. is reported to rebuild planing mill.

Tex., Manning.—Carter-Kelly Lumber Co. is reported to rebuild burned plant.

METAL-WORKING PLANTS

Md., Sparrows Point.—Tinplate, etc.—Baltimore Sheet & Tin Plate Co. (Bethlehem Steel Corp., Bethlehem, Pa.) J. M. Jones, Gen. Mgr., decided to build at Sparrows Point instead of Baltimore; has plans by Mr. Jones; 10-acre site for plant; 32x28-ft. hot mills; 3 units of 12 mills each; cold-rolling, pickling, annealing and trimming departments; 9000 to 10,500 electrical H. P.; annual capacity, 3,000,000 base boxes tinplate of 100 lbs. each. (Baltimore Sheet & Tin Plate Co. lately noted purchased by Bethlehem Steel Corp. with plans for \$4,500,000 investment, etc.)

MINING

Ala., Gadsden.—Iron.—J. J. Moore of Gadsden, D. C. Springfield and G. E. Hill of Blanche, Ala., purchased 600 acres iron-ore land in Cherokee county and will develop.

Ark., Dodd City.—Three Pal Mining Co. Incptd. by J. W. Sparks of Fort Smith, G. W. Mullar and E. Jarvis of Little Rock.

Ark., Fort Smith.—Zinc Smelter.—Clear Creek Oil & Gas Co. advises will not build smelter. (Recent report incorrect.)

Ark., Gilham.—Smelter.—American Star Antimony Co. (Gordan Battelle of Joplin, Mo., and others) is reported to build smelter to refine antimony. (Lately noted Incptd., under Mo., Joplin, with \$24,000 capital.)

Ark., Nashville.—Daisy Mining Co., capital \$5000, Incptd. by W. H. Meeky, Martin Walsh, F. W. Dwyer and others.

Ark., Van Buren.—Smelter.—H. H. Whitesides and associates will erect smelter.

Ark., Yellville.—Zinc.—Phillips Mining & Development Co., Jas. R. Phagan, Pres., Sloom Springs, Ark., will build mill. (Noted in Feb. as organized to develop 40 acres.)

Fla., Dunnellon.—Phosphate.—Camp Phosphate Co., Ocala, Fla., will rebuild phosphate plant reported burned.

Ga., Cartersville.—Ocher.—New Jersey Zinc Co., 55 Wall St., New York, is reported to

have purchased American Ocher Co. property and planning \$30,000 improvements, to include facilities for mining by placer process, building large pump, etc.

Ga., Colyart.—Iron.—L. S. Colyar, Chattanooga, Tenn., and associates will resume development of iron-ore property.

Mo., Joplin.—Concentrating Plant.—Sherman Adams will build 200-ton concentrating plant.

Mo., Joplin.—Big Joe Mining Co., capital \$30,000, Incptd. by E. N. Cunningham, J. L. Hine and J. H. Rountree.

Mo., Joplin.—Lead and Zinc.—S. C. L. Milling & Mining Co., capital \$25,000, Incptd. by R. K. Long, Mary O'Donnell, Dan Dryer and others.

Mo., Joplin.—Lead and Zinc.—Grizzly Bear Mining Co., 604 Frisco Bldg., organized; Chas. Shewey, Pres.; Chas. C. Turner, Secy.-Treas.; develop 17½ acres; daily capacity 250-ton mill, 2 shifts.

Mo., Neck.—Concentrating Plant.—Utah-Missouri Mining Co. is having plans prepared for 300-ton concentrating plant.

N. C., Durham.—Iron.—A. L. Rife of Logan-Rife Co., York, Pa., and Pervis Tilley of Durham interested in plan to develop iron-ore property in Mangum township.

N. C., Salisbury.—Granite.—Salisbury Granite Corp., Box 81, organized; P. A. Wallenborn, Pres.-Treas.; W. H. Rook, Secy.; will develop 250 acres; daily capacity quarries, 150 tons; granite; produce paving blocks, curb, monumental and building stock.

N. C., Asheville.—Sand.—Asheville Sand Co., capital \$5000, Incptd. by R. J. Woodcock, Donald Gillis and John S. Hursey.

Okla., Henryetta.—Zinc Smelter.—Picher Lead Co., O. S. Picher, Pres., Joplin, Mo., will construct lately noted plant; 4000-retort spelter plant; M. R. Bump, Henryetta, Constr. Engr. (See Machinery Wanted—Zinc Carbonate and Sulphide.)

Okla., Kusa.—Smelter.—Western Smelter Co., capital \$50,000, Incptd. by Geo. E. Nicholson, Kansas City; R. E. Nicholson, Dewary, Okla., and John F. Goshorn, Henryetta, Okla.

Tex., Lampasas.—Gold and Silver.—Silver King Mining Co., 124½ Pine St., Abilene, Tex., S. P. Moore, Pres., will develop 520 acres; open machinery bids (previously noted for earlier date) Apr. 25; John Kay, Constr.-Engr., Terrell, Tex.; install engine, drill and blower; cost \$3500; in Mar. noted organized, capital \$4000. (See Machinery Wanted—Boiler, Engine, etc.)

Va., Alexandria.—Zinc.—Potomac Zinc Mining Co., capital \$30,000, Incptd.; H. Noel Garner, Pres.; Louis N. Duffey, Secy.

Va., Lynchburg.—Limestone.—James Limestone Co., 1114 People's National Bank Bldg., capital \$50,000, Incptd.; has purchased machinery; rock crusher; Jas. R. Ford, Pres.; R. C. Blackford, V.-P.; Jas. L. Martin, Secy.

Va., Richmond.—Copper.—Oasis Copper Corp., capital \$100,000, chartered; Andrew D. Christian, Pres.; E. S. Bolen, Secy.

MISCELLANEOUS CONSTRUCTION

Ark., Morrilton.—Levee.—Commrs. Conway County Levee Dist. No. 6, T. B. Wells, Chrmn., will construct 4½ mi. of levee, containing about 90,000 cu. yds.; bids until Apr. 11; Robt. Stallings, Engr., State Bank Bldg., Little Rock, Ark. (See Machinery Wanted—Levee Construction.)

Ark., Yancopin.—Revetment, etc.—St. Louis, Iron Mountain & Southern Ry. Co., E. A. Hadley, Ch. Engr., St. Louis, Mo., will expend about \$75,000 to construct 1000 lin. ft. bank revetment and 1000 lin. ft. dike protection on Arkansas River at Bridge 87; all material and equipment is provided. (Contract lately noted let for this work by Missouri Pacific Ry. to Miller Engineering Co., Little Rock.)

Fla., Fort Pierce.—Seawall, etc.—St. Lucie County Commrs. will construct seawall and fill along Indian River front; seawall 800 ft. long, extending about 400 ft. from shore; Engr., Miller Hallowes, Ft. Pierce. (See Machinery Wanted—Seawall and Fill.)

Ga., Brunswick.—Breakwater.—Jas. W. Fitzgerald, owner, will himself construct breakwater at Jekyll Island; cost \$65,000. (Lately noted under Ga., Savannah.)

Tenn., Chattanooga.—Swimming Pool.—Chattanooga Golf and Country Club retained Knight & Quayle, Engrs., 408 Times Bldg., Chattanooga, to prepare plans for swimming pool, with filtration, etc., of supply.

Tex., Orange.—Dock.—City secured 75-acre site on which to build dock facilities to include 500 ft. of warehouses, 5000 ft. of open wharf and railroad; let contract to John

Jacobson of Galveston to dredge 300-ft. channel. (Previously noted.)

Tex., Texas City.—Dock, etc.—Texas City Channel & Dock Co., capital \$8000, Incptd. by A. B. Phillips, J. L. Corbett and A. E. Newman.

MISCELLANEOUS ENTERPRISES

Ala., Birmingham.—Contracting.—Robson Contracting Co., capital \$3000, Incptd.; Wm. Robson, Pres., Birmingham; Mrs. W. M. Robson, Secy.-Treas., Blossburg, Ala.

Ala., Birmingham.—Publishing.—Birmingham News Co., capital \$3000, Incptd.; Victor H. Hanson, Pres.; Frank P. Glass, Jr., V.-P.; Thos. J. Hedlin, Secy.-Treas.

Ala., Birmingham.—Publishing and Printing.—Birmingham News will build office and printing plant for publication daily newspaper; 82x82 ft.; 4 stories and mezzanine floor, basement 20 ft. deep; reinforced concrete construction; English-Gothic architecture; outside walls finished in dark red or oriental red brick; cream terra-cotta trimmings; balustrade panels and plate-glass windows; main lobby in white Alabama marble and mahogany; electric lighting; heating; ventilating; plentiful window space for natural light; estimated cost \$300,000; Joy & Gallup, Architects, Birmingham.

Ark., Texarkana.—Farmers' Cotton Oil & Fertilizer Co. will install machinery to crush peanuts; will manufacture peanut butter, etc.

Fla., Avon Park.—Cattle.—Skipper-Roberts Cattle Co., capital \$15,000, Incptd.; E. E. Skipper, Pres.; J. I. Roberts, V.-P.; C. A. Skipper, Secy.-Treas.

Fla., Branford.—Hardware.—Branford Hardware Co., capital \$5000, Incptd.; F. C. Thomas, Pres.; N. H. Green, V.-P.; E. H. Green, Secy.-Treas.

Fla., Jacksonville.—Laundry.—Electric Sanitary Laundry, capital \$35,000, Incptd. by W. E. Breazeale, Thos. E. Nunn, T. B. Christian and Dean Palmer; secured Eagle Laundry and will install machinery operated by electricity. (Lately noted.)

Fla., Marianna.—Grain Elevator.—W. L. Brandon & Son are reported to build grain elevator.

Fla., Miami.—Dairy.—Miami Sanitary Dairy Co. (Adolph Selige and others) is reported to erect concrete building for dairy equipment to include pasteurizers, etc.

Fla., St. Petersburg.—Construction.—Rising Construction Co., capital \$10,000, Incptd. by H. W. Pillsbury, C. H. McMullen, Fred Balm and others.

Ga., Fitzgerald.—Fire Alarm.—Bishop Automatic Fire Alarm Co., capital \$7500, Incptd. by J. E. Bishop, G. E. Davis and Eldridge Cutts.

Ga., Savannah.—Navigation.—Port Wentworth Navigation Co., capital \$10,000, Incptd. by Geo. W. Campbell, Thos. P. Goodbody, W. Lathrop Hopkins and Gordon Saussy.

Ky., Jackson.—Laundry.—Business Men's Club, Wm. W. Peavyhouse, Secy., plans to secure establishment of laundry.

Ky., Louisville.—Publishing.—Church Publishing Co., capital \$6000, Incptd. by David and Thos. B. Morton of Louisville and A. W. Brooks, Uniontown, Ky.

Mo., St. Louis.—Drayage.—Service Drayage Co., capital \$10,000, Incptd. by L. F. Lyons, D. E. Wood and Virgil Rule.

Mo., St. Louis.—Printing.—Sam F. Myerson Printing Co. acquired Little & Becker Printing Co.'s plant and lease on building at 9th and Walnut Sts.; erect 6-story addition to plant at 3d and Chestnut Sts.

Mo., St. Louis.—Sand-blast Cleaning, etc.—National Sand Blast & Tuckpointing Co., capital \$4000, Incptd. by John J. White, Matilda A. White and John J. Kelly.

Okla., Chickasha.—Fire Equipment.—City voted \$10,000 bonds to purchase motor fire equipment. Address The Mayor.

Okla., Rosston.—Grain Elevator.—Farmers' Elevator Co., capital \$10,000, Incptd. by F. M. Hickman and Wm. Kimball, Rosston, and W. R. Merriss, Yelton, Okla.

S. C., Columbia.—Abattoir.—J. D. Perry will build abattoir.

S. C., Johnston.—Publishing.—Johnston Times Co., capital \$5000, Incptd. by J. R. McGhee, Jas. G. Holmes and O. M. McGhee.

S. C., Union.—Publishing.—Union Times Co. will hold meeting Apr. 29 to vote on increase in capital from \$10,000 to \$20,000.

Tenn., Jackson.—Incinerator.—City will build incinerating plant to cost \$1200. Address The Mayor.

Tenn., Nashville.—Ideal Laundry, Sam Hartman, Propr., will build laundry; cost \$75,000.

Tex., Howe—Grain.—J. A. Hughes Grain Co., capital \$20,000, inceptd. by J. A. Hughes, C. E. Davis and I. R. Bobbitt.

Tex., North Pleasanton—Engineering.—Southern Engineering Co., capital \$10,000, inceptd. by E. R. Breaker, E. E. Baird and E. S. Curtis.

Tex., Victoria—Fire Alarm Tower.—City will invite bids to construct fire alarm tower. Address The Mayor.

Va., Roanoke—Dye.—Frazier Steam Dye Works, capital \$25,000, inceptd.; D. W. Howell, Pres.; J. W. Noel, Secy.

W. Va., Huntington—Plumbing.—J. L. Johnson & Co., capital \$2500, inceptd. by J. L. Johnson, Gypsy Davis Johnson, N. P. Howard and others.

MISCELLANEOUS FACTORIES

Ala., Mobile—Whiting.—Mobile Whiting Co., capital \$25,000, inceptd. to manufacture whiting, paint, etc.; Henry J. Wansap, Pres.; W. Bernard McCoy, Secy.-Treas.

Ala., Selma—Boll Weevil Destroyer.—F. Peck, Greenwood, Miss., will establish plant to manufacture veldop-boll weevil destroyer.

D. C., Washington—Chemical.—Chemical Products Co. engaged Harry Stevens, Engr., Union Trust Bldg., Washington, to build plant; let contract John H. Nolan Construction Co., 606 Munsey Bldg., Washington, to erect factory building; 250x200-ft. frame structure; will install machinery. (Lately noted letting contract for factory building, etc.)

Fla., De Funiak Springs—Turpentine.—De Funiak Turpentine Co., capital \$10,000, inceptd.; J. D. Sellars, Pres.; B. C. Davis, V.-P.; H. E. Wickersham, Secy.-Treas.

Fla., Miami—Paint.—H. F. Fordham will build paint factory; main building, 90x39 ft.; 3 stories; engine-room, 1 story, 16x40 ft.; fireproof; hollow tile; asbestos roof; steel window sashes; reinforced concrete foundations completed; machinery ordered.

Ga., Arlington—Disinfectants, etc.—J. E. Toole may establish disinfectant and floor-sweep factory. (See Machinery Wanted—Disinfectant Machinery.)

Ga., Atlanta—Films.—J. R. Smith will erect fireproof building; leased half of second floor to Triangle Film Corp.; structure will be 3 stories and basement; 95x35 ft.; cost \$40,000; let contract R. M. Walker.

Ky., Louisville—Tires.—Louisville Tire Co., capital \$500, by A. A. Ericson, Aaron Kern and Ruby B. Kern.

Ky., Louisville—Tires.—White Tire Co., capital \$10,000, inceptd. by Chas. Dobbs, B. H. Plaskett and Emil von Allman.

Ky., Louisville—Shoes.—Wear-U-Will Shoe Co., capital \$500, inceptd. by John J. Jansen and Tracey S. Buckingham of Brooklyn, N. Y., and Geo. F. Jebbett of New York.

Ky., Stamping Ground—Chemicals.—Ault & Wilcox Co., Cincinnati, O., purchased Franklin county barium sulphate property; will develop; build 200x300-ft. chemical factory; developing dye factory at Norwood near Cincinnati.

Md., Baltimore—Oxygen.—Linde Air Products Co., 42d St. Bldg., New York, will build plant manufacturing oxygen from air; oxygen held for tanks for welding and other purposes; purchased site for 1-story factory building reported to cost \$150,000.

Miss., Dlo—Bottling.—Mr. De Liles and others will organize company to establish bottling works and ice factory.

Miss., Fountainbleau—Turpentine.—Island Turpentine Co., capital \$10,000, inceptd. by D. J. Gay, Biloxi, Miss.; R. W. Hamill, Chicago, Ill., and Frank Matlock, Irvington, Ala.

Mo., St. Louis—Films.—U. S. A. Film Co., 14 N. 9th St., organized; E. P. Lasche, Pres.; G. B. Harney, V.-P.; E. Ward, Treas.; G. A. Chappell, Secy. and Mgr.; will erect fireproof building; plans not definite; produce industrial, commercial and dramatic films. (Lately noted inceptd., capital \$15,000.)

N. C., Barium Springs—Bottling.—Barium Springs Co., capital \$125,000, inceptd. by John R. Ross, A. L. Draper, Jos. R. Ross and C. W. Johnson, all of Charlotte, N. C.

N. C., Charlotte—Automobile Tires.—J. and D. Tire & Rubber Co., capitalization \$500,000, inceptd.; Herbert O. Smith, Pres., Indianapolis, Ind.; Thos. J. Northway, V.-P., Rochester, N. Y.; Lee A. Folger, Secy.; C. C. Coddington, Treas.; both of Charlotte; will build factory for automobile tires; 2 stories, 200x80 ft., and 1-story, saw-tooth, 100x100 ft., structures; daily capacity, 300 tires, increasing later to 750. (C. C. Coddington lately noted planning organization \$500,000 tire-manufacturing company.)

N. C., Cummock—Dyes, Explosives, etc.—National Dye & Munitions Co., R. P. Gibson, representative, Rocky Mount, N. C., located temporarily at Sanford, N. C., is reported to build plant for manufacturing dyes, explosives, munitions, etc.; first 5 buildings to be 2 stories and 180x50 ft. each; negotiating for 3000-acre coal property to mine coal for raw material; rumored as planning ultimate investment \$10,000,000. Mr. Gibson wires Manufacturers Record: "Not now prepared to make report."

N. C., Durham—Novelties.—Durham Novelty Co., capital \$100,000, inceptd. by R. H. Wright and T. D. Wright of Durham and Jas. Wm. Tatum of Coats, N. C.

N. C., New Bern—Clothing.—Dunn Clothing Co., capital \$10,000, inceptd. by J. G. Dunn, Wm. Dunn, Jr., and Emma S. Dunn.

N. C., Weldon—Peanuts.—North American Peanut Co., Box 361, Wilson, N. C., capital stock \$120,000, organized; Geo. E. Ransom, Pres.; Alfred H. Hinde, 1st V.-P.; B. H. Tyson, 2d V.-P.; W. R. Wood, Secy.; erect 4 to 6-story brick building; cost \$18,000; install peanut machinery, estimated cost \$12,000 to \$20,000; products, peanuts and by-products. (See Machinery Wanted—Peanut Machinery.)

N. C., Wilson—North American Peanut Co. (lately incorrectly noted as North Carolina Peanut Co.), capital stock \$120,000, will build factory at Weldon. (See N. C., Weldon.)

Okla., Sand Springs—Supplies.—Ideal Mfg. & Supply Co., capital \$45,000, inceptd. by Claude W. Harmony, C. W. Hegberg and Ross Dingman of Sapulpa, Okla.

Okla., Tulsa—Bottling.—Coca-Cola Bottling Co., capital \$25,000, inceptd. by O. H. Leonard, G. N. Wright and F. A. Haver.

S. C., Anderson—Bottling.—Superior Bottling Works, Geo. B. Townsend, Mgr., changed name to Pepsi-Cola Bottling Works; expend \$3000 for enlargement and machinery installation; daily capacity 250 cases Pepsi-Cola; has purchased machinery.

S. C., Columbia—Tires.—Carolina Tire Co., capital \$1000, inceptd. by J. M. Chapman and Ashley C. Tobias, Jr.

S. C., Greenville—Bottling.—Mint Cola Bottling Co., capital \$1000, inceptd. by W. J. Goodlet and Olin Goodlet.

Tenn., Chattanooga—Bottling.—Tenn-Cola Bottling Co. of Chattanooga (not Chattanooga Co.) is name of company lately noted inceptd., capital \$50,000, A. L. Alsobrook, Pres. (Previously mentioned as having building and with machinery ordered.)

Tenn., Chattanooga—Bottling.—L. M. Stong let contract F. P. Wilhoit to erect building; 2 stories; brick; cost \$5000; occupied by branch plant of Chero-Cola Bottling Co., main office, Columbus, Ga.

Tenn., Memphis—Drugs.—Ridolfi Drug Co., capital \$50,000, inceptd. by H. Ridolfi, E. S. Platte, J. S. Sugg and others.

Tex., Beaumont—Paint.—W. C. Tyrrell and F. W. Steinman (Mgr., Box 65), lately noted to incorporate company, capital stock \$50,000, will establish \$25,000 plant on 3½-acre site; will erect 3-story brick paint factory and 1-story brick varnish factory. (See Machinery Wanted—Paint Mills, etc.)

Tex., Dallas—Oxygen Gas.—Linde Air Products Co. of Texas (Andrew Squire and others) will build plant; 1 story and basement; fireproof; iron, steel and concrete; cost \$30,000; site 200x200 ft.; branch of Linde Air Products Co., 42d St. Bldg., New York. (Noted inceptd. in Feb. with \$50,000 capital.)

Tex., Fort Worth—Bottling.—Texa-Cola Co., capital \$100,000, inceptd. by E. T. Renfro, A. L. Ezell, W. A. Allen and others.

Tex., Houston—Wheels.—Houston Pneumatic Puncture-Proof Wheel Co. increased capital from \$25,000 to \$100,000.

Va., Abingdon—Creamery.—J. T. Nelson, representing Southland Development Bureau, Roanoke, Va., is promoting erection of creamery, ice and cold-storage plant.

Va., Fredericksburg—Shoes.—Fredericksburg Shoe Co. increased capital from \$30,000 to \$50,000.

Va., Goshen—Automobile Accessories.—Miller-Lillich Co., Fort Wayne, Ind., will build manufacturing plant; T. O. Nelson, Fort Wayne, Ind., wires Manufacturers Record: Plant 58x116 ft.; 2 floors; concrete construction; cost complete, including machinery, \$50,000; manufacture automobile accessories. (Lately reported to build.)

Va., Hopewell—Ice-Cream.—Hopewell Ice-Cream Co., capital \$10,000, inceptd.; Jas. Callans, Pres.; John Viokakis, Secy.

Va., Hopewell—Overalls.—John N. Maxwell, Box 304, interested in plan to establish over-all factory.

Va., Hopewell—Bottling.—Coca-Cola Bottling Corp., capital \$50,000, organized; Jesse G. Brown, Atty.; plans to erect brick building and equip for daily capacity 20,000 gross bottles Coca-Cola.

Va., Richmond—Tobacco.—Export Leaf Tobacco Co. will erect brick addition; cost \$9000. (Noted in Feb. to install additional machinery.)

Va., Richmond—Tar.—The Alcatraz Co., 28th and Main Sts., plans to install machinery to manufacture tar. (See Machinery Wanted—Tar Machinery.)

W. Va., Elkins—Medicine.—Ramberg Remedy Co., capital \$5000, inceptd. by T. W. Tremble, F. B. McIntosh, F. E. Fallman and others.

W. Va., Farmington—Beverages.—Hygeia Mfg. Co., capital \$25,000, inceptd. by A. V. Lynch of Farmington, Pietro Negro and Vito Delligatti of Fairmont, W. Va., and others.

W. Va., Fort Spring—Crushed Limestone.—Acme Limestone Co., Alderson, W. Va., capital \$20,000, inceptd.; T. H. Lilly, Hinton, W. Va., Pres.; Jas. F. Prince, Prince, W. Va., V.-P.; J. A. Rigg, Secy. and Mgr.; succeeds Snow Flake Lime & Rock Co.; will make improvements; manufacture crushed limestone for ballast, construction and agriculture; daily capacity 500 cu. yds. (See Machinery Wanted—Metal (Babbitt), Metal Paints, etc.)

W. Va., Greenbrier—Lime Crushing.—Acme Limestone Co., capital \$30,000, inceptd.; purchased Greenbrier lime and crusher plant; T. H. Lilly, Pres., Hinton, W. Va.; Jas. Prince, V.-P., Prince, W. Va.; J. A. Rigg, Gen. Mgr., Alderson, W. Va.

W. Va., Kingwood—Glass.—Kingwood Glass Co., capital \$5000, inceptd. by H. Foster Hartman, Carleton C. Pierce, W. C. Evely and others.

W. Va., Parkersburg—Polish, etc.—C. & V. Chemical Co., 416 4th St., capital \$10,000, inceptd.; S. K. Creek, Pres.; H. E. Varner, Secy.-Treas.; both of Parkersburg; L. O. Smith, Mgr., New Cumberland, W. Va.

W. Va., Parkersburg—Automobile Fenders.—International Sav-A-Life Fender Co., Box 476, organized with E. H. Jones, Pres.; Wilmer Blackburn, V.-P. and Mgr.; M. R. Jordan, Secy.; has rented building; will let contract for and install machinery within next 60 days to manufacture automatic automobile fenders; lately noted. (See Machinery Wanted—Machine Tools, etc.; Roofing.)

W. Va., Parkersburg—Paper Boxes.—Ideal Paper Box Co. will build plant; 50x200 ft.

W. Va., Princeton—Bottling.—Crystal Bottling Works, capital \$10,000, inceptd. by C. P. Hockinberry, D. J. Meister, H. A. Shumate and others.

MOTORS AND GARAGES

Ala., Mobile—Automobiles.—Postoffice Auto Co., capital \$6000, inceptd.; Henry Miller, Pres.; J. O. Bennett, Secy.-Treas.

Ala., Montgomery—Garage.—M. L. Grell will erect garage; cost \$6100.

Fla., Pensacola—Garage.—Jas. Muldon will erect garage; 50x100 ft.; fireproof.

Fla., Pensacola—Garage.—Jas. Muldon will erect garage; 50x100 ft.

Ga., Americus—Garage and Salesroom.—Americus Automobile Co., Arthur Rylander, Pres., and Walter Rylander, Mgr., will open bids about Sept. 1 to construct lately noted 3-story fireproof mill-construction building; about 90x125 ft.; plans by T. F. Lockwood, Columbus, Ga.; will install machine-shop equipment, welding outfit, steam vulcanizing plant, etc. (See Machinery Wanted—Building Materials, etc.)

Ga., Gainesville—Automobiles.—M. E. E. D. Motor Co., capital \$1000, inceptd. by B. H. Merck, Chas. T. Estes and Henry H. Estes.

Ga., Macon—McCord & Satterfield, agents for Ford Motor Co., purchased site 104x208 ft. on which to erect assembly station and repair shop; cost \$20,000.

Ga., Macon—Garage.—R. F. Willingham let contract to J. H. B. Wilder, Macon, to build 50x143-ft. garage; mill construction; cost \$3000; plans by Nisbet, Brown & Dunwoody, Macon. (Lately noted.)

La., Crowley—Garage and Machine Shop.—American Machine & Automobile Co. (lately noted to enlarge and improve plant) will install equipment, including welding and cutting outfit, reamer and boring bar. (See Machinery Wanted—Welding Machinery, etc.)

Md., Baltimore—Garage.—Wm. Tudor, 2000 Robb St., will erect garage at rear of 1112-1120 E. 20th St.; 44x18 ft.; 1 story; L. E. Koontz, Archt.

Md., Catonsville—Garage.—John W. McMillan (Treas. Cumberland Coal Co.), 900 Con-

tinental Bldg., Baltimore, let contract Leimbach & Reich, Delrey Ave., Catonsville, to erect stucco garage and stable at Oak Forest Park, Catonsville; Mottu & White, Archts, 322 N. Charles St., Baltimore. (Lately noted.)

Mo., St. Louis—Garage, etc.—Overland Stores Co. (Willys-Overland Co. of Toledo, O.) purchased site 150x155 ft. on which to erect building for Overland branch; general salesroom, repair shop and storage; 4 stories; fireproof; showroom 150x150 ft., with plate-glass front; cost \$250,000.

Okla., McAlester—Automobiles.—Novelty Carriage & Auto Works, capital \$3000, inceptd. by Geo. C. DeVenez, Lloyd A. Palmer, Dudley B. Buell and C. L. Rogers.

Okla., Muskogee—Automobiles.—Hendrix Motor Car Co., capital \$2500, inceptd. by G. G. Hendrix, Mary E. Hendrix and Irene Hendrix.

Okla., Oklahoma City—Automobile Accessories.—Farrar-Stephens Co., capital \$15,000, inceptd. by Frank K. Farrar, A. Leon Chapman and E. N. Crowther, all of Oklahoma City, and Ernest H. Farrar, Kansas City, Mo.

Tex., El Paso—Automobiles.—Aztec Auto Livery Co., capital \$2000, inceptd. by W. H. Fletcher, R. J. Channell and E. H. Fletcher.

Tex., El Paso—Automobiles.—Tri-State Motor Co., W. San Antonio and Leon Sts., organized; J. W. Kirkpatrick, Pres.; C. M. Newman, V.-P.; B. L. Farrar, Secy.; let contract to Perry-Kirkpatrick Realty Co. to erect 120x137½-ft. fireproof building; cost \$50,000; plans by G. O. Everman, El Paso.

Va., Norfolk—Automobiles.—Bell Motor Co., capital \$25,000, inceptd.; L. S. Grove, Pres.; B. M. Bell, Secy.

Va., Norfolk—Assembling Plant.—Winston Parrish and E. Thompson, Jr., will erect building; 1 story; brick; gravel roof; leased structure to Ford Motor Co. (Detroit, Mich.) for assembling plant; let contract J. M. Harris of Norfolk at \$5000.

W. Va., Wheeling—Garage.—T. A. Westmyer will build automobile supply house and public garage; 2 stories; 59x67 ft.; structural iron and steel; accommodate 70 cars; contain machine shop. (Lately noted.)

W. Va., Wheeling—Garage.—Westmyer's Auto Supply House, 11th and Water Sts., has plans by Geo. A. Ebeling for fireproof building to cost \$6500; building proposals opened Apr. 10. (Lately noted.)

ROAD AND STREET WORK

Ala., Bay Minette—Baldwin county will grade and otherwise improve Trunk Line Rd. from Little River to Gulf of Mexico, about 90 mi., and Forrest Highway from Bay Minette to Perdido, 13 mi., and 7 sections of road from 9 to 20 mi. each; County Commrs. receive bids until May 15; J. M. Garrett, Engr., Montgomery, Ala., and Bay Minette; J. H. H. Smith, Probate Judge; \$200,000 available; bonds were noted voted in Jan. (See Machinery Wanted—Road Construction.)

Ala., Camden—Wilcox county will construct clay and sand or clay and gravel road from Lower Peach Tree toward railroad for 4 mi.; County Commrs., J. N. Stanford, Chrmn., receives bids until May 12. (See Machinery Wanted—Road Construction.)

Ala., Lafayette—Chambers county will construct Lafayette-Waverly Rd. and Cussetta-Lanett Rd., 23 mi.; includes grading, draining, masonry and steel bridges; bids until April 24; S. E. Fitch, County Engr. (See Machinery Wanted—Road Construction.)

Ark., De Queen—Hugh R. Carter, State Highway Engr., Little Rock, Ark., has completed plans and specifications for Sevier county's link of Jefferson Highway; 30 mi.; cost \$130,000.

Fla., Arcadia—De Soto county will construct 20,000 sq. yds. asphalt pavement; County Commrs. receive bids until April 15; A. Jaudon Engineering Co., Engr., Bartow, Fla.; A. L. Durance, County Clerk. (See Machinery Wanted—Road Construction.)

Fla., Arcadia—City will vote on \$100,000 bonds to pave streets (with brick, sand-asphalt or wood blocks), extend water and sewer systems and build city hall. Address The Mayor.

Fla., Bartow—Polk County Commrs., J. A. Johnson, Clk., will call vote on probably \$1,400,000 bonds upon receipt of bids (lately noted for Apr. 18) for 240 mi. road construction with 20 concrete-steel bridges and 90 reinforced concrete culverts.

Fla., De Land.—Comms. De Land-Lake Helen Dist., Volusia county, Maynard M. Bond, Chrmn., let contract Southern Clay & Mfg. Co., Chattanooga, Tenn., at \$300,245.28

to construct 25 mi. paving; lug-cut brick, cement grouted; brick paving 9 ft. wide, except in center of De Land, with 3 ft. of shell on each side; brick to begin halfway on Daytona Rd., extend through De Land and halfway to Orange City, begin at Lake Helen Station, extend through Lake Helen, to De Land and De Land Junction; contract for shell road from Lake Winnemissett, halfway to New Smyrna, and from De Land Junction to river, was not let; \$370,000 available for expenditure; J. B. McCrary, Engr., Atlanta, Ga. (Lately noted.)

Fla., Miami.—Dade county votes May 9 on \$25,000 bonds to construct roads; S. A. Belcher, Chmn. County Comms.

Fla., Miami.—Board of Public Works ordered various improvements costing about \$400,000, including 3 mi. asphalt pavement, 9 mi. native rock pavement, 9 mi. curbs and gutters and 14 mi. sidewalks; will invite bids for permanent pavement on 4th, 6th and 7th Sts., etc.; oiled macadam, full width, on 1st, 2d and 3d Sts., etc., and oiled macadam, 18 ft. on 5th, 12th and Mark Sts., etc.; also construct sidewalks costing \$37,000 in various sections of city.

Fla., St. Petersburg.—City Comms. let contract Georgia Engineering Co., Augusta, Ga., to pave 5th and 8th Aves. north from Beach Drive to new seawall; ordered brick paving on 6th Ave. north in Davista from Park to 7th St. and on 7th St. from 1st to 6th Ave.; also pave 5th Ave. south.

Ga., Atlanta.—City invites bids to pave W. Peachtree St. and 7 other streets; W. Peachtree St. to be paved with wood block from 6th St. to North Ave., and with Topeka mixture from North Ave. to Baker St.; 7 other streets to be paved by contract will be treated with tar macadam; R. M. Clayton, Ch. of Construction.

Ga., Leesburg.—Lee County Comms., E. J. Stocks, Chmn., will expend \$25,000 on road construction. (Bonds lately noted.)

Ga., Quitman.—Road Dist. No. 2, R. E. Bozeman, County Judge, will vote Apr. 20 on bonds for road construction.

Ky., Bedford.—Trimble county is reported to vote May 27 on \$50,000 bonds to construct roads. W. C. Morgan, County Judge.

Ky., Brooksville.—Bracken county votes June 17 on \$20,000 bonds to construct roads. Address County Comms.

Ky., Elkton.—Todd county is reported to vote June 19 on \$100,000 bonds to construct roads. Address County Comms.

Ky., Grayson.—Carter County Comms. issued \$100,000 bonds to construct roads.

Ky., Glasgow.—Barren county will vote May 20 on bonds to construct roads; G. M. Bohannon, County Judge.

Ky., Morganfield.—Union County Comms., L. C. Flournoy, Prest., will construct about 110 mi. gravel road; also iron bridges; date of opening bids to be set at county court meeting Apr. 18; \$450,000 available; Wm. M. Berry, County Judge. (Bonds lately noted.)

Ky., Paducah.—McCracken county will improve Clark Line road; County Court receives bids until May 2; Gus G. Singleton, County Clk. (See Machinery Wanted—Road Construction.)

Ky., Versailles.—City contemplates paving Main St. from Green St. to Broadway; will secure estimates of cost. Address The Mayor.

La., Alexandria.—City let contract O. J. Chaudor to pave sidewalks on west side of Julia St. from Turner to Polk St., both sides of Elliott from Bolton to 23d St., east side of Albert St. from Bolton to Thornton St.; W. W. Whittington, Mayor.

La., Crowley.—City let contract Jersey & Naff, Opelousas, La., to pave 3d St. from Parkerson to Eastern Ave.

La., Leesville.—Vernon Parish Police Jury issued \$150,000 bonds to construct model road.

La., New Orleans.—Highway Dept., Board of State Engrs., Room 104, New Orleans Court Bldg., invites bids until April 21 to construct following: Winnfield-Jonesboro, Winnfield-Corfa highways, Winn parish, 10.5 mi., earth; Lafayette-New Iberia highway, Lafayette parish, 5 mi., gravel; Section 3, Arkansas highway, Caddo parish, 5.4 mi., gravel and stone; 1 concrete and 3 steel bridges, Caddo parish; W. E. Atkinson, State Highway Engr. (See Machinery Wanted—Road Construction.)

Md., Baltimore.—City will pave The Alameda from 1350 ft. northwest of Harford Rd. to 33d St.; 18,000 cu. yds.; contract No. 143-A; bids until April 19; John H. Robinette, Prest. Comms. for Opening Streets. (See Machinery Wanted—Paving.)

Md., Cumberland.—Allegany County Commissioners have authority of Legislature to issue bonds to construct road from Pekin to

Barton on Oldtown Rd., South Cumberland, and along Bedford Rd. to Eritt's Creek Dam.

Md., Cumberland.—Allegany County Commissioners will improve 3 roads—Bedford Rd. from end of concrete to Pennsylvania State line; Barton-Pekin Rd. and Williams Rd.; County Comms. will appropriate \$30,000.

Md., Towson.—Baltimore county will improve following roads: Falls Rd. from Shawan south 1 mi., macadam or concrete; White Hall Rd. from Gemmill's Corner to Harford county line, 1½ mi., macadam or concrete; Harford Rd. from end of improved road to Harford county line, 1 mi., resurfacing; County Comms. receive bids until Apr. 20; Chas. J. Fox, Chief Clerk. (See Machinery Wanted—Road Construction.)

Md., Towson.—Baltimore county will improve following roads: Old Court Rd. from end of improved road west 1 mi., with concrete and macadam; Glencoe Rd. from York Rd. to end of improved road, ½ mi., with concrete and macadam; Hollins Ferry Rd. from end of improved road south, ½ mi., with concrete; Annapolis Ave. from Hollins Ferry Rd. to Annapolis Rd., 3 mi., with concrete; County Comms. receive bids until Apr. 20; Chas. J. Fox, Chief Clerk. (See Machinery Wanted—Road Construction.)

Miss., Brookhaven.—Lincoln County Supervisors issued \$200,000 bonds to gravel about 175 mi. of roads.

Miss., Ellisville.—Jones County Comms., Dist. No. 2, S. W. Lindsey, Chmn., Laurel, Miss., will construct 23.62 mi. highway; bids until May 4. (See Machinery Wanted—Road Construction.)

Miss., Canton.—Madison county voted \$30,000 bonds to improve streets. Address The Mayor.

Miss., Ellisville.—Jones County Supvs. plan to improve about 25 mi. of road in 2d Supvs. Dist., including 12 mi. of proposed Jackson Highway; gravel road from Laurel to Ellisville, vehicle surface to be 16 ft. wide; continue improved road (completed to distance of 8 mi. west of Laurel) through Soso and Hebron to Covington county line; construct gravel road northward from Laurel to Mossville on Jasper county line; issue \$125,000 bonds; H. W. Bell, Engr. in charge; S. W. Lindsey, H. B. Justice and B. C. Rowell, 2d Dist. Road Com.

Miss., Greenville.—Washington county will vote on \$500,000 bonds to construct roads. Address County Supvs.

Miss., Liberty.—Amite County Supvs. are reported as considering \$300,000 bond issue for road construction.

Miss., Vicksburg.—City will pave S. Washington St.; open bids in May. Address The Mayor.

Mo., Mt. Vernon.—Lawrence county, Verona Special Road Dist., is reported to vote on bonds to construct roads. Address County Comms.

Mo., Kennett.—City will pave Washington Ave.; invites bids. Address The Mayor.

Mo., Marshall.—Saline County Comms. contemplate construction 40 mi. road; cost \$10,000.

Mo., Perryville.—Perry County, Road Dist. No. 7 (including Claryville and Belque) voted \$1500 bonds to improve roads. Address County Comms.

N. C., Dobson.—Surry county, Rockford township, votes May 2 on \$30,000 bonds to construct roads; S. G. Brim, Clk. County Comms.

N. C., High Point.—City plans to vote May 23 on bonds to pave streets. Address The Mayor.

N. C., Kinston.—City will pave 8 additional blocks with sheet asphalt. Address The Mayor.

N. C. Newland.—Avery County Comms. let contract Cornwell & Co. of Hickory, N. C., to construct 10 mi. sand-clay road; about 65,000 cu. yds. material; \$65,000 available; W. W. Barber, Ch. Engr.; Mr. Price, Newland, N. C., Engr.

Okla., Bartlesville.—City Comms. let contract to Bert Hahn Constr. Co., Dallas, Tex., to pave with concrete sections of 9th, 1st and 3d Sts. and 4 alleys.

Okla., Pawnee.—City awarded contract at \$13,500 to Swatek Paving Co. for paving District No. 2.

Okla., Tulsa.—City will pave sections of Katy and Jefferson Sts., Wheeling, Xanthus, Victor and Quincy Aves. and various alleys; City Comms. receive bids until Apr. 19; E. B. Cline, City Auditor. (See Machinery Wanted—Paving.)

Okla., Waurika.—Jefferson county, Earl township, votes May 11 on \$25,000 bonds to construct roads. Address County Comms.

S. C., Sumter.—City let following paving contracts, \$225,000 available: Simons-May-

rant Co., Charleston, S. C., for 60,000 sq. yds. concrete sidewalk at .80 and 10,000 sq. yds. concrete paving at \$1.25; Georgia Engineering & Construction Co., Augusta, Ga., 20,000 sq. yds. brick paving on old macadam at \$1.48; Ely Construction Co., Chattanooga, Tenn., for 70,000 sq. yds. sheet asphalt at \$1.53 for lake and \$1.39 off well; W. Loring Lee, City Engr. (Bids lately noted.)

Tenn., Henderson.—Chester county will vote in Aug. on \$100,000 bonds to construct roads. Address County Comms.

Tenn., Benton.—Polk County Court authorized \$95,000 road bond issue, of which \$65,000 will be expended to construct road across mountain from Ducktown to Louisville & Nashville R. R., and remaining \$30,000 for roads in various sections of county.

Tenn., Chattanooga.—City let contract Southern Paving & Construction Co. of Chattanooga at \$15,831.50 to pave Whiteside St. from Main to 25th St.; E. D. Bass, Commr. Dept. Streets and Sewers. (Call for bids lately noted.)

Tenn., Cleveland.—Bradley County Commissioners will issue \$25,000 bonds for road construction.

Tenn., Maryville.—Blount County Comms., R. S. Walker, Secy., let contract Oliver-Hill Construction Co., Knoxville, Tenn., to construct about 75 mi. highway; expend \$300,000. (Lately noted inviting bids.)

Tenn., Paris.—Henry county will vote in Aug. on \$250,000 bonds to construct roads. Address County Comms.

Tenn., Savannah.—Hardin county votes June 3 on \$100,000 bonds to construct roads. Address County Comms.

Tenn., Union City.—Obion county votes on May 9 on \$500,000 bonds to construct 160 mi. of hard roads; W. M. Miles, Chmn. County Comms.

Tenn., Wartburg.—Morgan county votes May 29 on additional \$100,000 bonds for road construction; now completing roads authorized under \$270,000 bond issue voted last year. Address County Comms.

Tex., Bartlett.—City will construct 11,700 sq. yds. street paving, to be paved by city, and 15,500 sq. yds. paving and 7600 lin. ft. curb, to be paved by property owners; bids until April 20 on vertical fiber vitrified brick, 1-course concrete, asphaltic concrete, Uvalde rock asphalt; R. T. Smith, City Engr. (See Machinery Wanted—Paving.)

Tex., Belton.—Bell county, Sulphur Road Dist., votes May 6 on \$300 bonds to construct 3 additional mi. of roads. Address County Comms.

Tex., Bryan.—City will grade, pave, gutter and curb portions of Dallas, Anderson, Washington and other streets; bids until Apr. 14; W. W. Harris, Mayor; A. S. Adams, City Engr. (See Machinery Wanted—Paving.)

Tex., Houston.—City will construct standard combined curb and gutter and 6-ft. sidewalks around North Side Junior Playgrounds; bids until Apr. 19; Ben Campbell, Mayor. (See Machinery Wanted—Paving.)

Tex., Caldwell.—Burleson County Commissioners' Court will expend about \$20,000 to construct clay-sand roads; open bids July 10; C. H. Malejowsky, Engr.; W. M. Hilliard, County Judge. (See Machinery Wanted—Road Construction.)

Tex., Fairfield.—Freeman county, Streetman Dist., is reported to vote on \$52,000 bonds to construct roads. Address County Comms.

Tex., Falfurrias.—Brooks county voted affirmatively on road-building appropriation and will construct roads; issue warrants. (Lately noted to vote on \$30,000 bonds to construct 30 mi. road.)

Tex., Gainesville.—City let contract Bert Hahn Construction Co., Dallas, Tex., to pave Courthouse Square with rock asphaltum; will soon let contract to pave Commerce, Dixon and W. California Sts. with rock asphaltum.

Tex., Georgetown.—Williamson county, Hutto precinct, voted \$50,000 bonds for road construction. Address County Comms.

Tex., McKinney.—City will construct 26,000 lin. ft. combined curb and gutter, 44,500 sq. yds. asphaltic concrete pavement, etc.; bids at office Sims Cameron, City Secy., until Apr. 25; H. A. Finch, Mayor. (See Machinery Wanted—Paving.)

Tex., West.—City votes May 9 on \$1000 bonds to improve streets. Address The Mayor.

Va., Petersburg.—Prince George County Comms., Prince George, Va., will contribute \$40,000; city of Petersburg, \$25,000, and E. I. du Pont de Nemours & Co., \$25,000 (total of \$90,000), to construct 40-ft. concrete roadway between Petersburg and Hopewell. (Noted in November.)

Va., Christiansburg.—Montgomery county, Geo. W. Wilson, Clk., will construct about 22 mi. macadam road; estimated cost \$100,000; will let contract after bonds are sold. (Supvs. lately noted to issue \$100,000 bonds.)

Va., Petersburg.—Greater Petersburg Development Corp., S. W. Zimmer, Prest., Virginia Nat'l Bank Bldg., will grade and improve streets, construct sidewalks, curbs and gutters, storm-water drainage system, etc. bids until Apr. 17; J. H. Starkey, Commr. Engr., 617-618 Mechanics' Bldg., Petersburg. (See Machinery Wanted—Paving, etc.)

Va., Petersburg.—Chamber of Commerce, G. P. Coleman, Secy., Petersburg, Va., receives bids until April 14 to construct 9 mi. of road between Petersburg and City Point in Prince George county; alternate bids on one-course concrete pavement and bituminous concrete pavement on concrete base. (See Machinery Wanted—Road Construction.)

Va., Salem.—Roanoke County Comms. contemplate issuing \$150,000 bonds to construct roads.

Va., Tazewell.—Tazewell county, Jeffersonville dist., voted \$96,000 bonds to complete system of macadam roads. Address County Comms.

Va., Wytheville.—Wythe County Comms., C. C. Tate, Clk., let contract to J. R. Warden, Pulaski, Va., to construct 3½ mi. macadam road; \$16,000 available.

W. Va., Cameron.—City let contract R. J. McFadden at \$3900 to pave Waynesburg Ave.

W. Va., Charleston.—City let following contracts to pave streets; R. M. Hudson Co. several streets in Edgewood Addition with brick, and Roeler Ave., on South Side, with asphalt; Central Engineering Co., Charleston, 6th St. on West Side, 1759 sq. yds. asphaltic concrete.

W. Va., Lewisburg.—Greenbrier county, White Sulphur Dist., John S. Crawford, Clerk, voted bonds for road construction (Amount noted in March as \$90,000.)

W. Va., Parkersburg.—Wood county, Tygart dist., is reported to vote May 2 on \$70,000 bonds to improve roads. Address County Comms.

W. Va., Spencer.—Roane county, Spencer Dist., voted \$240,000 bonds to construct roads. Address County Comms. (Lately noted.)

W. Va., Parkersburg.—City let contract W. C. Peters at total of \$13,474.76 to pave sections of 16th, Oak, 17th and 24th Sts.; Kelley & Myers at \$7758.03 to pave sections of Latrobe and Oak Sts.

SEWER CONSTRUCTION

D. C., Washington.—Comms. District of Columbia will construct outlet trunk sewers between Pennsylvania R. R. bridge and Benning bridge, involving construction of 200 lin. ft. masonry sewers, 10-ft. span to 24.6-in. diam., including transition and special sections and piling, timber and other foundations; bids until Apr. 17. (See Machinery Wanted—Sewer Construction.)

Fla., Arcadia.—City will vote on \$100,000 bonds to extend sewer system, etc. Address The Mayor. (See Road and Street Work.)

Ga., Savannah.—City, E. R. Conant, Ch. Engr., plans further sewer construction; cost \$120,000; 1½ mi. reinforced concrete main trunk box sewers; date for opening bids not set.

Ga., Savannah.—Obenshain Bros. of Center Moriches, N. Y. (lately noted as securing contract at \$121,124.50 to construct Div. A, east side contract, of \$400,000 house drains and storm sewer system), sublet contract to Gadsden Contracting Co. of Savannah, associated with Guild & Co. of Chattanooga, Tenn.; latter companies, bidding jointly, also received contract (as lately noted) at \$132,288.70 to construct Div. B, west side contract; eastern division calls for 18 mi. of circular sewers, ranging from 8 to 48 in. diam.; western division, 17 mi. sewers ranging from 8 to 60 in. diam.; also construct rectangular reinforced concrete box sewer.

Miss., McComb.—City contemplates issuing \$90,000 bonds to construct sewer system. Address The Mayor.

N. C., Hickory.—City, J. W. Shuford, Mayor, voted \$100,000 bonds for sewer and water construction. (Lately noted.)

N. C., Kannapolis.—Cannon Mfg. Co. let contract to Sanitary Engineering Co., Charlotte, N. C., for installation 800 residential sewage-disposal outfits in Kannapolis mill village and in Cabarrus mill village at Concord, N. C.

N. C., Concord.—Cannon Mfg. Co. let contract to Sanitary Engineering Co., Charlotte, N. C., to install residential sewage outfits in mill village. (See N. C., Kannapolis.)

Okl., Afton.—City will construct main sewers and laterals to cost about \$40,000; having plans and specifications prepared by Benham Engineering Co., Oklahoma City, Okla.; probably let construction contracts in May.

Okl., Oklahoma City.—State Capitol Commission, A. N. Leecraft, Secy., will construct tile drainage system for Oklahoma State Capitol; bids until May 6; alternate bids for cast-iron pipe; plans and specifications obtainable from Commission or Layton & Smith, Architects, 701 Majestic Bldg., Oklahoma City. (See Machinery Wanted—Sewer Drain.)

Tenn., Nashville.—City let contract Lewis Bros. at \$15,914.29 to construct circular brick sewer from and connecting with Sec-trunk sewer at 21st Ave. to N. Clay and 10th Ave.; Robt. Ewing, Mayor. (Call for bids lately noted.)

Tex., Austin.—City Commrs. appropriated \$80,000 to construct and maintain bridges and sewers; M. C. Welborn, City Engr. (Noted in March as contemplating construction of 5 bridges to cost \$28,000.)

Tex., Austin.—City will construct storm sewer to carry water of Little Shoal Creek; work to be divided into 3 sections, one to cost \$5,000 and two \$5,000 each; bids until Apr. 22; P. W. Powell, Supt. of Streets and Public Improvements. (See Machinery Wanted—Sewer Construction.)

Tex., Dallas.—City voted \$300,000 bonds for storm sewers; Hal Mosely, City Engr.

Tex., Eagle Pass.—City will extend sewer system. Address J. R. Sanford.

Tex., Hillsboro.—City will probably expend \$30,000 to construct sewage-disposal plant; 20,000 gals. daily capacity; F. C. Metzger, City Engr.; bonds to be voted. (Lately noted.)

Tex., Holland.—City is reported to contemplate construction of sewer system. Address The Mayor.

Tex., Houston.—City let contract at \$9000 to F. D. Horton & Son to build storm sewer on St. Charles St. from Calhoun to McCullen Aves.

Tex., Maypearl.—City, A. W. Dowd, Commr., contemplates installation of sewerage system and water-works.

Tex., Venus.—City let contract to Winslett-Edridge Co., Dallas, to construct sewers; cost \$10,000. (Lately noted.)

TELEPHONE SYSTEMS

Mo., Kansas City.—Missouri & Kansas Telephone Co., P. H. Hopkins, Gen. Mgr., 680 Gates Bldg., will erect 4-story exchange; steel and brick construction; cost \$155,000; bids were opened Apr. 1; Engr., F. O. Hale, Southwestern Bell Telephone System, St. Louis, Mo. (Lately noted.)

Va., Elberon.—Farmers' Telephone Co., capital \$500, inceptd.; H. C. Seward, Pres.; Isaac T. Jones, Secy.

W. Va., Moundsville.—Bell Telephone Co. will rebuild Wheeling and Fairmont Toll line, extending between Moundsville and Wheeling; cost \$10,000.

TEXTILE MILLS

Ala., Attalla—Hosiery.—W. B. Davis & Son, James Bldg., Chattanooga, Tenn., advises Manufacturers Record: Will build 1-story 150x60-ft. brick mill structure costing \$800; Walter M. DeKalb, Archt.; Rodgers Construction Co., Contr.; both of Chattanooga; install 100 knitting machines, electric-power drive, etc., costing \$15,000; daily capacity 1000 doz. pns. hose. (Lately incompletely noted.)

Ala., Florence—Cotton Yarn.—Cherry Cotton Mills will add cotton opener, breaker lapper, 2 finishing lappers, 10 cards, 4 spoolers and cone winder; to displace old machinery will install 72 deliveries drawing, 7 roving frames, 8 twistors and 13 spinning frames; has let contracts.

Ala., Huntsville—Cotton Cloth.—Merrimack Mfg. Co. will install \$900 additional spindles; has let contract for new machinery.

Ga., Columbus—Cotton Cloth.—Meritas Mills, J. T. Broadbent, Mgr., 329 Broadway, New York, let contract T. C. Thompson & Co., Charlotte, N. C., to build 400x125-ft. 3-story addition; will install 25,000 spindles, 50 broad looms, etc.; Lockwood, Greene & Co., Architects-Engrs., 1530 Healey Bldg., Atlanta, Ga., and Boston, Mass. (Lately noted to build additional mill, install 25,000 spindles and 500 looms, etc.)

Ga., Egan—Cotton Cloth.—Martel Mfg. Co. will install 364 automatic looms, displacing old-type looms; has let contract.

Ga., Macon—Underwear.—South Bend Knitting Mills will build 100x40-ft. addition; has

awarded contract; will install additional machinery for finishing; has purchased.

Ga., Union Point—Hosiery.—Union Mfg. Co. will not enlarge hosiery mill. (Recent report erroneous.)

La., New Orleans—Cotton Goods.—Lane Cotton Mills Co. will build 135x110-ft. addition; slow-burning mill construction; saw-tooth roof; Geo. J. Glover, Contr.; Favrot & Livaudais, Archts.; both of New Orleans.

Md., Baltimore—Cotton Cloth.—Wm. E. Hooper & Sons Co. let contract Consolidated Engineering Co., Calvert Bldg., Baltimore, to build 142x101-ft. 3-story fireproof factory building and connecting bridge; Herman F. Doelman, Engr., Baltimore. (Lately noted to build addition, etc.)

N. C., Bolivia—Knit Goods.—W. H. Heffner and others are interested in proposed establishment of knitting mill. (See Machinery Wanted—Knitting Mill.)

N. C., Draper—Cotton Cloth.—German-American Mills (Thread Mills Co., Prop., Monticello, Ind.) will build 332x330 ft. addition to sheeting mill and 135x125 ft. addition to blanket mill; change from steam power to electric drive.

N. C., Newton—Cotton Goods.—A. D. Baker, Raleigh, N. C., is reported to build cotton mill.

N. C., Newton—Hosiery.—Fidelity Hosiery Mills Co. will add 20 new knitting machines; ordered this equipment; will install sprinkler equipment during next 2 or 3 mos.

N. C., Rosemary—Cotton Cloth.—Patterson Mills Co. will add 5700 spindles; purchased this equipment; cost \$35,000. (Lately reported at Roanoke Rapids.)

N. C., Spray—Cotton Blankets.—Rhode Island Mills (Thread Mills Co., Prop., Monticello, Ind.) will build additional story on cotton blanket mill; also construct large bleaching; change from steam power to electric drive.

N. C., Spray—Woolen Goods.—Spray Woolen Mill (Thread Mills Co., Prop., Monticello, Ind.) will build 2-story 150x75-ft. addition; install 3 sets cards, 24 looms and finishing machinery; change from steam power to electric drive.

N. C., St. Pauls—Cotton Yarn.—Ernsdson Mfg. Co. organized; A. R. McEachern, Pres.; A. I. McDonald, V.-P.; D. S. McEachern, Secy.-Treas.; has 98x40-ft. building; will install 624 spindles, etc., costing \$7500 and power plant costing \$1800; manufacture cotton yarn.

S. C., Walterboro—Cotton Yarn.—J. W. Young, Secy., Catawba Cotton Mills, Newton, N. C., purchased Walterboro Cotton Mills; will take out looms and change to cotton-yarn production; install 20 twistors, 2 spoolers, 2 balling attachments, etc. (See Machinery Wanted—Cotton Machinery.)

Tenn., Clinton—Hosiery.—Magnet Knitting Mills increased capital from \$75,000 to \$100,000; will build 250x75-ft. 2-story-and-basement addition; reinforced concrete with monitor roof, steel sash and concrete floors; also build 25 operatives' houses; install 200 machines to knit fine-gage seamless hosiery; direct-connected power drive with individual electric motors; whole cost \$100,000; J. D. Allsup & Co., Archts., Chattanooga, Tenn. (Lately noted planning to build additions or install new machinery.)

Va., Hopewell—Hosiery.—John N. Maxwell, Box 204, plans equipment of 100 knitting machines with belt-drive power for hosiery mill. (Lately noted.)

WATER-WORKS

Ala., Marion.—Marion Military Institute let contract for artesian well.

Fla., Arcadia.—City will vote on \$100,000 bonds to extend water-works, etc. Address The Mayor. (See Road and Street Work.)

Fla., Ocala.—City let contract Benj. Thompson Co. at \$97,254.50 to construct combined water and electric-light plant and to R. D. Cole Co., Newnan, Ga., to build tank costing \$9,748 without foundation; Twombly & Henney, Engrs., 55 Liberty St., New York; H. C. Sistrunk, Clk. (Call for bids lately noted.)

Fla., St. Petersburg.—City plans improvements to water-works to include pump and other equipment. C. D. Hammond, Commr. of Public Works.

Ga., Lavonia.—City will vote on \$45,000 bonds to construct water-works and improve schools. Address The Mayor.

Ky., Jackson.—Business Men's Club, Wm. W. Peavyhouse, Secy., plans securing construction of water-works.

La., Covington.—City votes May 16 on \$60,000 bonds to construct water-works; Xavier

A. Kramer, Engr., Magnolia, Miss., prepared plans and specifications.

Md., Brunswick.—City, Eugene Harrison, Mayor, will probably vote in Aug. on about \$75,000 bonds for water-works extension.

Md., Frostburg.—Wm. Harvey, Town Engineer, submitted report estimating cost of rebuilding old reservoir so as to have capacity of 4,000,000 gals. at \$10,801.60—\$9085 for concrete work and \$1706.60 for excavating. (Noted in March.)

N. C., Hickory.—City, J. W. Shuford, Mayor, voted \$10,000 bonds for water and sewer construction. (Lately noted.)

Okl., Ardmore.—City contemplates installing machinery at pumping station. Address The Mayor.

Okl., Cleveland.—City is reported to vote again on \$100,000 bonds to construct water-works; David Heller, City Clerk. (Lately noted.)

Okl., Commerce.—Town Board will build pumping station; purchased well.

Okl., Cordell.—City, R. L. Harvey, Mayor, has completed water-works extension; not planning further construction. (Lately noted.)

Okl., Enid.—City defeated \$35,000 bond issue to extend water-works; John R. Clover, Mayor. (Lately noted.)

Okl., Henryetta.—City asks bids on pump-motor set, etc., in connection with lately noted water-works extension; M. A. Bernan, City Engr.

Okl., Lookout.—City is considering construction of water-works. Address The Mayor.

Okl., New Wilson.—City, C. W. Henson, Clerk, will issue \$25,000 (bonds voted in February) for water-works and electric-light plant construction. (Lately noted.)

S. C., Bamberg.—City votes May 2 on \$10,000 bonds to extend water-works. Address The Mayor.

S. C., Columbia.—City, L. A. Griffith, Mayor, will construct high-velocity rapid sand water filtration plant, with building, piping, filter appurtenances, etc.; bids until May 2; John McNeal, City Engr. (See Machinery Wanted—Water Filtration Plant.)

S. C., Spartanburg.—City will construct auxiliary 10-in. water main from standpipe to West Hampton Ave.; cost \$15,000. Address The Mayor.

Tenn., Bristol.—City retained Knight & Quayle, Engrs., 408 Times Bldg., Chattanooga, Tenn., to investigate and report relative to proposed water-works improvements.

Tenn., Dyersburg.—City contemplates extension of water system; S. R. Blakeman, Supt. (See Electric Plants.)

Tex., Holland.—City is reported to contemplate construction of water-works. Address The Mayor.

Tex., Maypearl.—City, A. W. Dowd, Commr., contemplates installation of water-works and sewerage system.

Va., Hopewell.—Spring Garden Water Co., capital \$300,000, inceptd. by H. B. Stratton, Pres.; Robert S. Budd, Secy.; both of Petersburg, Va.

Va., Mineral.—City votes Apr. 29 on \$10,000 bonds to construct water and electric-light systems. Address The Mayor.

W. Va., Madison.—City, H. W. B. Mullins, Mayor, will construct water-works; asks bids until June 1. (See Machinery Wanted—Water-works.)

W. Va., Wheeling.—City will vote about July 1 on \$300,000 bonds to install well system of filtration; C. B. Cooke, City Engr.

WOODWORKING PLANTS

Ark., Arlberg—Staves.—Chess & Wymond Co., Louisville, Ky., will build stave mill. (See Lumber Manufacturing, Ark., Clinton.)

Ark., Clinton—Staves.—Chess & Wymond Co., Louisville, Ky., will build stave mill. (See Lumber Manufacturing.)

Ark., Leslie—Cooperage.—Export Cooperage Co., capital \$300,000, inceptd. by W. E. Hemingway, J. V. Walker and B. A. Kobler.

Fla., Lake Wales—Crates.—C. L. Morrison and J. O. Densford of Fort Meade, Fla., will build plant to manufacture orange and vegetable crates.

Ga., Dublin—Handles.—J. A. Kelley contemplates installing machinery to manufacture hickory axe handles, pick handles, etc.

Ky., Jackson—Chairs.—Business Men's Club plans to secure establishment of chair factory.

Ky., Lexington.—Furniture.—Waller Mfg. Co. purchased Lexington Automobile Co.'s factory and 2 acres land on Leestown pike;

buildings comprise 10,000 ft. floor space; erect drykilns and warehouse, extend railroad siding, etc.

Md., Baltimore—Showcases, etc.—F. X. Ganter Co., Ostend, Leadenhall and West Sts., will erect 2 buildings to replace burned plant; 5 stories, 68x156 ft., and 4 stories, 72x200 ft. (Lately noted to rebuild burned plant.)

N. C., Elizabeth City—Porch Columns.—National Column Co. organized; W. A. Worth, Pres. and Mgr.; W. G. Galtier, Jr., Treas.; Edson Carr, Secy.; has building; will manufacture colonial porch columns; daily capacity 120. (Lately noted inceptd., capital stock \$25,000.)

N. C., High Point—Veneer.—Consolidated Veneer & Panel Co., capital \$100,000, inceptd. by R. R. Ragan, W. C. Munyan, J. W. Clinard and others.

N. C., Winston-Salem—Furniture.—Huntley Furniture Co. let contract Paul Miller to erect addition for finishing department and warehouse; 4 stories; 73x150 ft. (Noted in March.)

FIRE DAMAGE

Ala., Brewton.—T. R. Miller Mill Co.'s dry kilns; loss \$5000.

Ark., Wetumpka.—Ed Clarke's residence.

Ark., Watauga.—W. C. Barham's residence.

Fla., Dunnellon.—Phosphate plant of Camp Phosphate Co. of Ocala, Fla.

Fla., Tallahassee.—Yaeger & Rhodes Hardware Co.'s warehouse.

Fla., Tallahassee.—William Potte's grist mill, loss \$1000; Thomas Wiggins' wagon-repair shop, loss \$1500; B. H. Bohler's paint shop, loss \$2500; James J. Vinson's vehicle repair shop, loss \$1500; W. H. Rugeley's grist mill, loss \$1000; buildings of Miles H. Johnson, Sr., loss \$4000; W. C. Tully's annex to Bliss House, loss \$1000; Johnson boarding-house, loss \$5000; J. B. Clemmens' residence, loss \$4000.

Ga., Atlanta.—Carolina Portland Cement Co.'s office building; loss \$50,000.

Ga., Swainsboro.—D. H. Adkins' wood shop; J. A. Coleman's grist mill; J. G. Mason's feed and sale stable.

Ga., Wrightsville.—Business building and opera house owned by E. A. W. Johnson; loss \$25,000.

Ky., London.—W. T. Murray's residence; Boring Memorial M. E. Church (address The Pastor); loss \$17,000.

Ky., Louisville.—Louisville Packing Co.'s plant; loss \$12,000.

La., Lake Charles.—Elks' Home and building owned by J. Frank; loss \$25,000.

La., Many.—Old Sabine Bank building, occupied by Vines & Miller; Many Drug Co.'s building; Hoyt Drug Co.'s building.

La., New Orleans.—Frank Franco's two dwellings and grocery store; loss \$6500.

La., Sunset.—Farmers' Union Gin; loss \$10,000.

Md., Hagerstown.—Hagerstown Spray Material Co.'s plant; loss \$7000.

Md., Catonsville.—Residence of William Graham Bowdoin; loss \$20,000.

Md., Towson.—Smedley House, owned by Ralph Rider; loss \$40,000.

N. C., Greenville.—W. C. Fleming & Co.'s store at Cross Roads.

N. C., Scotland Neck.—N. B. Josey Guano Co.'s plant; loss \$50,000.

N. C., Durham.—J. F. O'Brian's residence.

S. C., Union.—S. S. Cudd's store and dwelling.

Tex., Boerne.—A. A. Hughes' residence; loss \$5000.

Tex., Galveston.—Mrs. E. M. Vogel's residence; loss \$3000.

Tex., North Zulch.—Simpson Dry Goods Co.'s store; loss \$4500.

Tex., San Marcos.—Bryan Griffin's residence; loss \$5500.

Tex., Victoria.—Victoria Broom & Whisk Factory; loss \$3500.

Tex., Waxahatche.—W. W. Powers' residence; loss \$5000.

Va., Orange.—Dairy-house of August C. Wambersie.

Va., Staunton.—Erskine Miller Co.'s store building.

DAMAGED BY STORM

Ala., Yellow Pine.—Buildings of L. P. C. Etheride, C. D. Scott, E. W. Gates, Mrs. Spence, E. Block Cartwright; residences of L. P. C. Etheride, John Barrier, Prof. Barton, C. D. Thompson, F. E. Long, T. Davis, Mrs. Elliott; R. E. Fuller's stable; C. D. Scott's warehouse; total loss \$30,000 to \$25,000.

Tex., Kosse.—Forbes cotton warehouse.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Ark., Helena.—B. C. Pouncy is having plans prepared by S. J. Weigel, Memphis, Tenn., for apartment-house; 10 apartments of 6 rooms each; brick and stone; cost \$25,000.

D. C., Washington.—Harry Wardman, 1430 K St. N. W., is reported to have acquired 20-acre site bounded by 24th St., Mass. Ave., Calvert St. and Rock Creek and to erect apartment-houses; reported outlay, \$3,000,000 to \$5,000,000.

Fla., Miami.—Dr. Edwin Wells will erect 2-story apartment-house.

Fla., Miami.—T. C. Hinton will erect 3-story apartment-house.

Fla., Miami.—J. J. Quinn will erect store and apartment building. (See Stores.)

Ga., Atlanta.—F. L. Irwin, 88 Lee St., has plans by W. C. Meador, Chattanooga, Tenn., for 2-family house; frame; steam heat; day labor. (Lately noted.)

Md., Baltimore.—Carlton Apartment Co. has plans by Parker, Thomas & Rice, Union Trust Bldg., Baltimore, for apartment-house on N. Charles St.; 4 stories; brick; fireproof; bids opened April 18.

Md., Baltimore.—Owosso Apartment House Co. has plans by Clyde N. Friz, Munsey Bldg., Baltimore, for apartment-house on Lake Front Drive; 6 suites; 35 ft. 6 in. by 56 ft.; 3 stories; brick and frame; first floor fireproof; slag roof; mostly wood floors; steam heat; cost \$25,000; date opening bids not set; contractors estimating are John F. Kunkel, 29 S. Linwood Ave.; J. Henry Smith, 1426 Light St.; Cowan Building Co., 106 W. Madison St.; Blake & Engle, Law Bldg.; H. D. Watts Co., Garrett Bldg.; B. F. Bennett Building Co., 123 S. Howard St.; Price Concrete Construction Co., 225 St. Paul St.; Jos. Schamberger, 2122 E. Baltimore St.; Edw. G. Turner, 15 E. Fayette St.; Cogswell-Koether Co., 406 Park Ave., all of Baltimore. (Lately noted.)

Mo., Joplin.—Riley F. Robertson receives bids through C. H. Sudhoelter & Co., Architects, 215 W. 9th St., Joplin, until Apr. 26 for material and erection of apartment-house; 3 stories and basement; fireproof; 36 apartments of 3 and 4 rooms each; 12x8 88 ft.; reinforced concrete and brick; tile floors in halls and lobby; plans and specifications at office of architects.

Mo., Kansas City.—E. P. Walton will erect store and apartment building. (See Stores.)

Mo., Kansas City.—Logan Morris will erect store and apartment building. (See Stores.)

Mo., Kansas City.—Bert L. Elmer, 1004 W. 23rd St., will erect apartment-house; 40x58 ft.; 2 stories and basement; brick walls; composition roof; wood floors; cost \$13,000; steam heat \$800; electric lights \$300; plans and construction by owner. (Lately noted.)

Mo., St. Louis.—Alfred D. Ruth will erect store and apartment building. (See Stores.)

Okl., Oklahoma City.—Chas. Mendelsohn has plans by Finger & Bailey, Oklahoma City, for apartment-house; 55x100 ft.; 8 suites; brick veneer; steam heat; cost \$18,000.

Okl., Tulsa.—Lon Hamilton will erect two-story brick apartment-house on W. 4th St.; cost \$8,000.

Okl., Weleetka.—H. Britten has plans by Hawk & Parr, Oklahoma City, for apartment-house; ordinary construction; pitch and gravel roof; yellow pine floor; cost \$9,000; owner taking bids.

Va., Norfolk.—N. B. Joyner has plans for store and apartment building. (See Stores.)

Va., Norfolk.—Fred M. Killam has plans by Ferguson, Calrow & Wrenn, Norfolk, for apartment-house at Armistead Bridge Road and Colley Ave.; 150x128 ft.; 24 apartments; exterior of main building, Richmond brick, faced and trimmed with marble and white tiling; white tile bathrooms, mantles and trim; white enamel interior decoration; cost \$100,000.

Va., Norfolk.—Agostini Bros., 207 E. 28th St., will erect apartment-house 13th St.; 45x72 ft.; brick; gravel roof; wood floors; hot-water heat; electric lighting; cement sidewalks; cost \$8,000; plans and construction by owners. (Lately noted.)

Va., Norfolk.—Mark Davies will probably let contract Apr. 20 to erect apartment-house; 3 stories and basement; 98x100 ft.; 18 suites; brick and stucco; stone and tile trimmings; Barrett specification roof; wood floors; steam heat; electric lights; tile and concrete foundation; cost \$35,000; William

Newton Diehl, Archt., Chamberlain Bldg., Norfolk; contract for foundation let to S. G. Williams Co., Norfolk. (Lately noted.)

Va., Norfolk.—Monticello Apartment Co. opened bids to erect apartment-house on Park Place; 3 stories; 65x65 ft.; 6 suites; tapestry brick; Barrett specification roof; hardwood floors; tile baths and lobbies; H. Robert Diehl, Archt., Arcade Bldg., Norfolk; W. H. Mercer, Norfolk, is lowest bidder at \$11,872 for general contract; Benton & Lancaster, Norfolk, lowest bidders for plumbing, and W. W. Breedlove, Norfolk, lowest bidder for heating. (Lately noted.)

Va., Richmond.—Virginia Realty & Construction Co. will erect 4 flats and 2 dwellings on Lombardy St. between Cary and Taylor Sts.; cost \$17,500.

W. Va., Parkersburg.—J. J. Crotty will erect apartment-house.

ASSOCIATION AND FRATERNAL

La., Shreveport.—Maple Camp, W. O. W., plans to erect 2 or 3-story lodge building; cost about \$30,000.

Md., Catonsville.—Palestine Lodge of Masons is having plans prepared by C. M. Anderson, 324 N. Charles St., Baltimore, for lodge; 3 stories; brick; cost about \$15,000.

Mo., Nevada.—Knights of Pythias plan to erect hall; cost \$35,000.

Ozark, Fla.—A. F. & A. M. plan to add third story to temple in course of construction.

Tenn., Tellico Plains.—W. B. Hunt will erect Masonic hall, etc. (See Stores.)

Tex., Beaumont.—Y. M. C. A. plans to erect building at Carder and Pearl Sts.; cost \$25,000.

Tex., Fort Worth.—Nobles of the Mystic Shrine are considering erecting temple; J. T. Pemberton, R. D. Gage and others are interested.

Tex., Brady.—A. F. & A. M. will erect Masonic temple; cost \$10,000; 3 stories; 32½x90 ft.; stone or brick; metal or composition roof; wood floors; J. H. White, Chrmn. Commission, and he may be addressed.

BANK AND OFFICE

Ga., Atlanta.—Dr. F. T. Hopkins will erect office building on East Court Square.

Ga., Augusta.—John R. Schneider will erect office building to replace burned structure.

La., New Orleans.—Ike Herdman, represented by C. A. Ramsey, acquired Pons' building and will remodel; possibly rebuild rear portion and install elevators, etc.

Mo., Springfield.—Grubel Bros., Kansas City, Kans., are reported to erect office or hotel building. (See Theaters.)

Okl., Oklahoma City.—C. F. Colcord will erect 12-story addition to Colcord Bldg.; duplication of present structure. Mr. Colcord wires Manufacturers Record: "No intention to start construction soon."

Tex., Frost.—Citizens' State Bank is having plans prepared by T. J. & J. O. Galbraith, Hillsboro, Tex., and Slaughter Bldg., Dallas, for bank building; 2 stories; 25x20 ft.; mat face brick; cast stone trimmings; tile floors.

Va., Clifton Forge.—Clifton Forge National Bank has plans by Alfred C. Bosson, 396 Fifth Ave., New York, for bank and office building; limestone, terra-cotta; 2 stories; cost \$40,000. (Lately noted.)

Va., Norfolk.—United Owners Realty Corp. will expend \$4500 to alter lobby in Law Bldg.

CHURCHES

Ark., Corning.—Methodist Episcopal Church South, Rev. A. F. Skinner, pastor, will erect building to replace burned structure; brick; cost \$10,000. (Lately noted.)

Ga., Nashville.—Baptist church, Rev. S. S. Mathis, pastor, receives bids until April 17 to erect building; 97x121 ft.; red pressed brick; main auditorium to seat 300; seating capacity, including balcony and Sunday-school classrooms, 600; A. H. Giddens, Chrmn. Building Comm., may be addressed. (Noted in Feb.)

Ky., Harlan.—Christian Church, Rev. W. E. Dougherty, Pastor, will erect building to replace burned structure; brick; probably metal roof; steam heat; electric lights; cement sidewalks. Address C. E. Ball.

Ky., Paris.—Paris Presbyterian Church is

having plans prepared by H. L. Nevin, Louisville, for building. (Lately noted.)

Ky., Russellville.—Methodist church will erect \$15,000 building. Address The Pastor.

Ky., Russellville.—Baptist church will erect building; cost \$8000. Address The Pastor.

La., Grand Prairie.—Catholic congregation will erect \$5000 building; T. G. Chachere, Archt.

Miss., Brookhaven.—Methodist Church, Rev. W. P. Morse, pastor, has plans by John Galsford, Memphis, Tenn., for church; brick; classic design; auditorium to seat 350; cost \$26,000; S. C. Moreton, Chrmn. Building Comm. (Noted in Feb.)

Miss., Friars Point.—Methodist church will erect building; brick; hot-air heat; H. T. McGee, Archt., Tennessee Trust Bldg., Memphis.

Miss., Moorhead.—Methodist church will erect building to replace structure lately noted damaged by fire; brick; probably slate roof; cost \$10,000. Address Robert H. Ruff.

Miss., West Point.—First Baptist Church will erect Sunday-school annex; 82x42 ft.; brick; tin roof; probably pine floor; hot-air heat (price not determined); electric lighting; day labor; construction to begin May 1; cost \$11,000. J. B. Van Landingham, West Point, may be addressed. (Lately noted.)

Mo., Galena.—Presbyterian church will erect building; cost \$12,000. Address the pastor.

Mo., St. Louis.—B'nai Amoona Congregation, Garrison and Lucas Aves., Rev. Joseph Glushak, Rabbi, will erect \$75,000 synagogue.

N. C., Charlotte.—First Presbyterian Church, Dr. Rolston, Pastor, plans to enlarge building at cost of \$30,000.

Okl., Bennington.—Christian congregation plans to erect building. Address The Pastor.

Okl., Drumright.—Presbyterian church plans to erect building. Address The Pastor.

Okl., Kingston.—Methodist congregation will erect building. Address The Pastor.

S. C., Drayton.—Baptist church, Rev. Mr. Jackson, pastor, plans to erect building.

S. C., Greenville.—Greenville A. R. P. Church, Rev. W. A. McCauley, pastor, will erect building.

S. C., Timmonsville.—Methodist church, Rev. Bert A. Powell, pastor, plans to rebuild structure damaged by fire.

Tenn., Columbia.—First Presbyterian Church will erect \$30,000 building; W. F. Fleming is interested.

Tenn., Concord.—Methodist Episcopal Church South, A. J. Deal, Chrmn. Building Com., will erect building; 60x50 ft.; brick veneer; metal or slate roof; oak floors; hot-air furnace; cost \$4000. Address Mr. Deal or Rev. E. M. Richey, Pastor. (Lately noted.)

Tex., Galveston.—First Church of Christ, Scientist, has plans by W. S. Murdoch, Galveston, for building; cost \$11,000; R. A. Wood, C. G. Sweet and D. J. MacGregor, building committee.

Tex., Corsicana.—Colored M. E. church will erect building. Address The Pastor.

Tex., Orange.—First Methodist Church, Rev. W. W. Watts, pastor, will erect chapel at 16th and Burton Sts.

Tex., Terrell.—First Baptist Church plans to erect addition to accommodate Bible classes. Address The Pastor.

Va., Covington.—Presbyterian church, Rev. T. K. Young, pastor, will erect building.

Va., Hopewell.—Jewish congregation will erect \$30,000 synagogue. Address The Rabbi.

Va., Hopewell.—Christian church will erect building; Rev. H. D. Coffey, pastor.

Va., Hopewell.—Adath Israel congregation will erect building in Hopewell Park; brick; M. Cavalechick, M. Leion and M. Silberstein, Building Comm.

Va., Richmond.—Broad Street Methodist Church, Rev. Fred R. Chenault, pastor, is reported to rebuild structure at 10th and Broad Sts.

Va., Richmond.—Grace Covenant Presbyterian church, Rev. J. Calvin Stewart, Pastor, 1031 W. Grace St., plans to erect church and Sunday-school; site 100x150 ft.; date opening bids not set.

Va., Richmond.—Sharon Baptist Church will repair brick church; cost \$3200. Address The Pastor.

W. Va., Beckley.—M. E. church plans to erect building; brick with stone trimming; cost \$8000 to \$12,000. Address The Pastor.

W. Va., Chester.—Sacred Heart Church, Rev. Wm. J. Sauer, pastor, will erect building; English white stone; cost \$22,000.

W. Va., Keyser.—Presbyterian church has plans by C. W. Shely, Keyser, for building.

(Lately noted to have let contract to Mr. Shely to erect building.)

W. Va., Ronceverte.—St. Catherine's Catholic Church, Rev. J. J. DeLaad, pastor, will erect building; cost \$10,000.

CITY AND COUNTY

Fla., Miami.—Jail.—Dade county votes May 9 on \$25,000 bonds to erect jail. Address County Comms.

Fla., Orlando.—Jail.—Orange County Commissioners have plans by L. Percival Hinton, Orlando, for jail; brick and concrete; fireproof cells; built-up 5-ply roof; reinforced concrete floor; steel dumbwaiter; cost about \$25,000; steam heat, \$1000; bids opened April 25. Address owner. (Lately noted.)

Ky., Owensboro.—City Hall.—City temporarily abandoned erection of \$25,000 city hall. (Previously noted.)

Miss., Laurel.—Fair.—City will issue \$15,000 bonds for fair. Address The Mayor.

Mo., Kansas City.—Homes.—Jackson county, A. L. Cooper, counselor, will call for bids to erect 2 cottages at Jackson County Parthenon Home for Girls; cost \$12,000 each.

N. C., Charlotte.—Office.—Water Board has plans by Hunter & Gordon, Charlotte, for 3-story office building.

Tenn., Ashland City.—Jail.—Cheatham County Comms. will erect \$5000 jail.

Tex., Dallas.—Fire Station.—City will erect fire stations in North Oak Cliff and East Dallas; cost \$16,000. Address The Mayor.

Tex., El Paso.—Alms-house.—El Paso county has plans by Braunt & Liebert, El Paso, for almshouse; 7 stories; brick, adobe or Holland tile construction; 2-story center building, polygon shape, with 3 wings, each 1 story, 38x26 ft.; kitchen, 13x26 ft.; dining room, 26x26 ft.; concrete verandas on 3 sides; laundry, heating plant, etc., in basement; cost \$25,000 to \$30,000.

Tex., Houston.—Fire Station.—City is having plans prepared by Maurice J. Sullivan, Houston, for fire station No. 12 at Sumter and West Sts.; bungalow type.

Tex., Marvin.—Pavilion.—City voted \$1250 bonds to erect city hall and \$5000 bonds for concrete pavilion at hot well No. 1; latter structure, 40x90 ft.; fireproof; roof garden; electric lights; E. W. Bounds, Mayor. (Lately noted.)

Va., Hanover.—Jail.—City receives bids until May 1 for reconstruction of jail; plans and specifications from Lambert & Harsook, Architects, Travelers' Bldg., Richmond.

COURTHOUSES

Md., Cumberland.—Allegheny county has plans by Dwight Butler, Cumberland, for annex to courthouse, 2 stories and basement.

W. Va., Pineville.—Wyoming county opens bids June 8 to erect courthouse; 53x120 ft.; tile roof; stone floors; hot-water heat; electric and gas lighting; cost \$80,000; plans completed May 1; A. F. Wyson, Archt., Princeton, W. Va., may be addressed. (Lately noted.)

DWELLINGS

Ark., Camden.—H. B. Side has plans by Chas. S. Watts, Little Rock, for \$5000 residence.

Ark., Little Rock.—J. H. Knudson will not erect residence as lately reported.

Fla., Jacksonville.—J. H. W. Hawkins will erect 3-story brick dwelling; cost \$4500.

Fla., Miami.—Jonas Stephens, care of Sam T. Young, will erect \$6000 residence.

Fla., Miami.—R. C. Reynolds, care of Sam T. Young, will erect residence; cost \$8000 to \$10,000.

Fla., Miami.—Harry Terry, Philadelphia, has plans by J. S. Andrews, Miami, for residence; 38x76 ft.; frame; composition or tile roof; cost \$6000; bids opened about May 1. Address Architect at 212 12th St.

Fla., Miami.—R. C. Reynolds will erect \$10,000 residence; August Gelger, Archt., Miami.

Fla., Palma Sola.—Geo. J. Harrott, Pres. Indiana Ry. & Light Co., Indianapolis, Ind., will erect residence.

Fla., Palma Sola.—J. Kirkpatrick has plans for residence.

Fla., St. Augustine.—C. W. Haig will erect residence.

Ga., Americus.—Cloyd Buchanan will erect residence.

Ga., Augusta.—T. W. Pilcher will erect dwelling at Hampden and Heard Aves.; cost \$5000.

Ga., Atlanta.—S. R. Jacobs will erect residence; 1 story; brick veneer; cost \$3000.

tract to Mr.
rine's Cath.
pastor, will
Y
votes May
l. Address
county Com-
relval Nat-
d concrete,
roof; rel-
valter; cost
bids opened
noted.)
ity tempo-
city hall.
Issue \$15.00
or.
son com-
all for bids
ity Paren-
ch.
Board has
Charlotte, for
Cheatham
ill.
will erect
and East
Mayor.
also county
El Paso,
adobe or
ry center
ings, each
t.; dining
on 3 sides;
basement;
ity is hav-
Sullivan,
at Sumter
ed \$12.50
bonds for
1; latter
of garden;
or. (Late-
ives bids
all; plans
& Hart-
rmond.
ounty has
ed, for an
ement.
ity opens
\$33.19 ft.;
ent; eleva-
00; plans
& Hart-
ed. (Late-
plans by
\$5000 res-
on will not
ckins will
\$4500.
re of Sam-
re of Sam-
at \$800 to
delphia.
lant, for
osition or
out May
St.
will erect
Arch.
it, Prest.
olla, Ind.
has plans
will erect
will erect
res.; cost
\$3000.
ned.

Ga., Atlanta.—S. R. Jacobs will erect several dwellings; hollow clay tile and brick; composition roof; wood floors; hot-air heat; electric lights; concrete sidewalks; plans and construction by owner. (Lately noted.)
Ga., Atlanta.—S. R. Crawford will erect 8 additional residences in Adair Park; cost about \$350 each.
Ga., Atlanta.—Adair & Weinmeister will erect two 2-story brick-veneer dwellings on St. Charles Ave.; cost \$11,000.
Ga., Atlanta.—J. E. DeMars will erect 1-story brick-veneer dwelling; day labor; cost \$350.
Ga., Savannah.—Savannah Realty Co. will erect 2-story frame residence on Reynolds St.
Ga., Savannah.—C. M. Fesler will erect 2-story dwelling; metal roof; frame.
Ga., Tybee.—A. J. Silver has plans by Levy & Clarke, Tybee, for dwelling; 1 story and basement; completion by May 15.
Ky., Louisville.—H. D. Block will erect brick-veneer dwelling; cost \$5000.
Ky., Louisville.—Louisville Trust Co. will alter brick dwelling at 42 S. 4th St.; cost \$500.
La., New Orleans.—Thomas McGivney will erect double 1-story residence; cost \$3500.
La., New Orleans.—Geo. Minner will erect double 2-story residence at 4701 Baudin St.; cost \$3000.
La., New Orleans.—John J. Bache will erect 2-story residence on Coliseum St.; cost \$300.
La., New Orleans.—"7022 St. Charles Ave. Co." will erect 2-story frame residence; cost \$185.
Md., Baltimore.—Casper Lutz, 2736 Wilkens Ave., will erect residence on Wilkens Ave. near Dukeland; 26x28 ft.
Md., Baltimore.—Wm. F. Werner, 2503 Druid Hill Ave., will erect two 2-story dwellings at 2108-5/4 Lake Ave.; 14x50 and 16x50 ft.; cost \$5000.
Md., Baltimore.—M. Filmore Carter, Franklin St. and Hilton Ave., acquired site at Melvin Ave. and Frederick Rd. and will erect number of cottages.
Md., Baltimore.—M. Filmore Carter, Franklin St. and Hilton Ave., purchased 4 acres of land at Melvin Ave. and Frederick Rd. and will erect a number of cottages.
Md., Baltimore.—William O. Olwine, 930 Hampden Ave., bought 2 lots on Ridgewood Park Ave., West Arlington, and will erect twelve 2-story dwellings; porchfront; cottage type; cost \$35,000.
Md., Mt. Washington.—Geo. J. Mohr, Rogers Ave. and Old Pimlico Rd., will erect 6 dwellings in Mt. Washington Heights; old English style; cost \$7000 to \$8000 each; plans by owner.
Md., Baltimore.—C. M. Wartman, 1617 N. Milton Ave., will erect nine 2-story dwellings on Clifton Ave.; ornamental brick with marble trimmings; cost \$12,000.
Miss., Corinth.—A. F. Young will erect residence.
Miss., Corinth.—J. D. Smith will erect residence.
Miss., Corinth.—H. O. Caffy will erect residence.
Miss., Picken.—Edgar Atkinson has plans by Emmett J. Hull, Jackson, Miss., for residence; 2 stories; frame; asphalt shingle roof; electric lights.
Miss., Nettleton.—J. M. Wiggle has plans by D. J. Anderson, Armory, Miss., for residence; 1-story; frame; shingle roof; hardwood floors; cost \$35,000.
Mo., Kansas City.—C. W. Hamrick will erect five 1 1/2-story stucco dwellings; cost \$11,500; also 2-story stucco dwelling; cost \$3000.
Mo., Kansas City.—C. A. Price Inv. Co. purchased tract on Swope Parkway and will erect 50 dwellings, all with garages; cost \$500 to \$5000 each.
Mo., Kansas City.—Frank J. Smith will erect 2-story brick duplex dwellings; cost \$800.
Mo., Kansas City.—F. N. Peters will erect 2-story stucco dwelling; cost \$3000.
Mo., Kansas City.—R. Tillotson will erect 2-story stucco dwelling; cost \$3000.
Mo., Kansas City.—W. H. Collins will erect four 1-story frame dwellings; cost \$1400.
Mo., Kansas City.—Zurn Building & Investment Co. will erect 3 residences at 3600-2-4 Benton Blvd.; 21x34 ft.; 2 stories; frame and stucco-veneer; shingle roof; wood floors; hot-water heat; electric lights; cost \$3000 each; plans and construction by owner. (Lately noted.)

Mo., Kansas City.—E. W. Hayes will erect two 1-story frame dwellings; cost \$3000.
Mo., Kansas City.—E. M. Bainter, Princ. of Kansas City Polytechnic Institute, will erect dwelling at 61st St. Ter. and Wornell Rd.
Mo., Kansas City.—William B. Chapman will erect dwelling on 58th St.
Mo., Kansas City.—H. M. Metcalf will erect four 2-story stone-veneer dwellings; cost \$12,000.
Mo., Kansas City.—John Rohde will erect 2-story frame dwelling; cost \$3750.
Mo., St. Louis.—Mrs. J. H. Timmerman has plans by Emil H. Nieman, St. Louis, for dwellings at Hillcrest; 10 rooms; interior finished in mahogany, oak and marble; garage in basement.
N. C., Asheville.—J. A. Campbell will erect 6-room residence; cost \$3000.
N. C., Asheville.—Miss Fannie Patton will erect 12-room addition at 81 Charlotte St.; cost \$10,000.
N. C., Asheville.—G. M. Morris will erect \$7000 residence on Patton Ave.
N. C., Asheville.—Dr. F. Webb Griffith will erect 10-room residence at 49 Watauga St.; cost \$8645.
N. C., Raleigh.—John Askew will erect 2-story frame residence; cost \$3000.
N. C., Salisbury.—J. D. Hellig will erect two 2-story residences; cost \$5000.
N. C., Statesville.—O. W. Slaine will erect two dwellings.
N. C., Statesville.—Miss Annie Marvin and Oscar Marvin will erect bungalow.
Okla., Clinton.—E. A. Humphrey will erect residence; 2 stories; brick; S. B. Tarbel & Co., Architects, Kansas City, Mo.
Okla., Holdenville.—W. C. McConnell will erect residence.
Okla., Oklahoma City.—John J. Sloan will erect residence; hot-water heat; vacuum cleaning system; completion by June 1; cost \$6500.
Okla., Tulsa.—W. H. Walker lets contract about May 1 to erect brick residence; two stories; hardwood floors and trim; vacuum cleaning system; hot-water heat; cost \$6000; Starr-Thompson, Architects, 211-13 Calumet Bldg., Tulsa. (Previously noted.)
Okla., Tulsa.—D. W. Holmes has plans by Starr-Thompson, Architects, 211-13 Calumet Bldg., Tulsa, for \$8000 brick residence.
Okla., Tulsa.—S. D. Hanly has plans by Starr-Thompson, Architects, 211-13 Calumet Bldg., Tulsa, for brick residence; contract let May 1; cost \$6000.
Okla., Tulsa.—E. A. Ross has plans by Starr-Thompson, Architects, 211-13 Calumet Bldg., Tulsa, for brick residence; probably let contract early in May; cost \$15,000.
Okla., Tulsa.—P. T. Moore will erect dwelling on Admiral Blvd.
Okla., Tulsa.—A. J. Hamel, Tulsa Security Co., is having plans prepared for dwelling on South Cheyenne Ave.; cost \$6500.
S. C., Drayton.—Drayton Mills Co. will expend \$10,000 for improvements; to include erection of 14 dwellings and installation of fire walls in cotton warehouses, etc.
S. C., Greenville.—W. E. Mason will erect dwelling; 30x40 ft.; brick veneer; shingle roof; hardwood and pine floors; electric lighting; cost \$5000; hot-water heat \$50; Martin & Ward, Architects, Greenville; construction by owner, who may be addressed.
Tenn., Chattanooga.—S. Doughton will erect residence on Signal Mountain; 7 rooms; frame veneer; composition shingle roof; wood floors; hot-air heat; cost \$3000; construction July 15. (Lately noted.)
Tenn., Cleveland.—J. T. Johnson is having plans prepared by Clarence T. Jones, Chattanooga, to remodel residence; hardwood interior, etc.
Tenn., Memphis.—Geo. W. Person & Co. plans to erect several dwellings in Glenview sub-division and Normal Place sub-division.
Tenn., Memphis.—J. A. Haley will erect 3 dwellings on Central Ave.; brick and stucco; cost \$4000 each.
Tenn., Memphis.—H. L. Polk is having plans prepared by S. J. Weigel, Memphis, for bungalow on Grandville Pl.; cost \$7000; Mr. Weigel is also preparing plans for \$5,000 residence.
Tenn., Memphis.—W. A. Hewes will erect dwelling; cost \$3000.
Tenn., Nashville.—Geo. Zickler will erect residence to replace lately burned structure; brick; cost \$5000.
Tex., Dallas.—G. E. Culp will erect 2-story 8-room frame dwelling; cost \$3000.
Tex., Dallas.—Mary Richeson will erect addition to residence; cost \$3000.

Tex., Dallas.—J. H. Brillhart will erect 2-story 16-room twin brick residence; cost \$5000.
Tex., Dallas.—J. C. Smith will erect 7-room 2-story frame dwelling; cost \$4500.
Tex., Houston.—Chas. Daab will erect \$900 dwelling.
Tex., San Angelo.—Geo. O. Mason is erecting \$16,000 dwelling.
Tex., San Antonio.—J. C. Mangum will erect 2-story dwelling; cost \$6650.
Tex., San Antonio.—J. B. Cleere will erect 2-story dwelling; cost \$5500.
Va., Norfolk.—Albert Stamford has plans by William Newton Diehl, Chamberlain Bldg., Norfolk, for residence; brick, hollow tile and stucco; slate and tile roof; hardwood floors and trim; hot-water heat; electric and gas lights; cost \$5500; contract let about April 20.
Va., Richmond.—Suburban Dev. Co. will erect 4 brick dwellings; cost \$15,200.
Va., Richmond.—W. J. Gilman will erect six 2 1/2-story brick dwellings; cost \$42,000.
Va., Richmond.—P. J. Beattie will erect 2 stores and dwellings. (See Stores.)
W. Va., Charleston.—John W. Sparkes has plans by A. G. Higginbotham, Charleston, for residence; 33x42 ft.; stucco on hollow tile; shingle tile roof; wood floors; fireplaces; cost \$10,000; bids opened about April 25. Address Archt. (Lately noted.)
W. Va., Charleston.—Wm. M. MacCorkle has not selected Archt. for residence lately noted.
W. Va., Marlinton.—S. H. Sharp will erect residence; 30x34 ft.; frame; shingle roof; hardwood floors; hot-water heat; electric lights; cost \$3000. (Lately noted.)

GOVERNMENT AND STATE
Md., Indian Head.—Government.—Bureau of Yards and Docks, Navy Dept., Washington, D. C., receives bids until Apr. 29 to erect extension to building No. 102, Naval Proving Ground; 20.1x30.9 ft.; corrugated steel on wood frame; concrete foundation; corrugated steel roof; sheet-metal lining; steam heat; electric light; plumbing; heat insulation; gas, air and electric service for general laboratory work.
Mo., Jefferson City.—Capitol.—State Capitol Commission Board receives bids until May 4 to construct sections A and B of approaches, enclosures, steps and walls of basement of Missouri State Capitol building; drawings and specifications at office of board at Jefferson City and Tracy & Swartwout, Architects, 244 5th Ave., New York; proposals may be submitted on either section A or B; separate proposals for both sections or combined proposals; J. Kelly Poole, Secy.
N. C., Wilmington.—Custom-house, etc.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opened bids to construct custom-house, etc.; Northeast Construction Co., New York, is lowest bidder at \$388,400 for erection, and S. W. Rittenhouse, Mobile, Ala., lowest bidder at \$35,491 for mechanical equipment. (Previously noted.)
Tenn., Tellico Plains.—Postoffice.—W. B. Hunt will erect postoffice, etc. (See Stores.)

HOSPITALS, SANITARIUMS, ETC.
Ky., Covington.—Booth Memorial Hospital, 165 E. 2d St., is having plans prepared by B. P. Wisenall, Cincinnati, for 3-story addition; cost \$100,000.
Miss., Amory.—E. D. Gilmore will erect sanitarium; brick and reinforced concrete; steam heat; gravel roof; tile bathroom; hardwood interior; elevator; cost \$15,000; D. J. Anderson, Archt., Amory, Miss.
Miss., Columbia.—Dr. J. J. Gardner will erect \$20,000 brick hospital.
Miss., Greenwood.—Kings Daughters are promoting hospital; county and city will probably each vote on \$10,000 bonds to erect; Mrs. A. McC. Kinbrough interested.
Mo., Cartersville.—Jasper County Tuberculosis Hospital Commission selected Cartersville as location for hospital for which \$100,000 bonds were voted; plans by Rose & Peterson, Kansas City, Kans., call for 2-story-and-basement structure; 250x60 ft.; rear projecting wing 40x34 ft.; reinforced concrete; backing walls, hollow tile; outside walls, masonry; reinforced concrete floors covered with wood or substitute composition. (Detailed in February.)
N. C., Morganton.—State Hospital, I. I. Davis, Prest., will erect women's building; accommodation for about 100 patients; \$10,500 available.
Okla., Miami.—Dr. W. W. Jackson and others plan to erect \$20,000 hospital.

Tex., Ennis.—Commercial Club is promoting erection of \$30,000 sanitarium; Fred A. Newton, A. H. Dunkerley, P. C. Matthews and others interested.
Tex., Marlin.—Dr. W. H. Allen will erect 3-story sanitarium; cost \$35,000.
Va., Richmond.—American Locomotive Works will erect 2-story brick hospital; cost \$6500.

HOTELS
Ala., Decatur.—J. L. Echols will erect additional story to Echols Hotel; brick; steam heat from present plant; electric lights from local plant; extension to elevator; construction begins in about 30 days. (Lately noted.)
Ark., Rush.—Fruett & Willis, Yellville, Ark., will erect hotel; 20 rooms; completion in 30 days.
Fla., Live Oak.—H. W. Taylor, Prest., Standard Lbr. Co., will erect hotel, etc. (See Stores.)
Fla., St. Petersburg.—Manhattan Hotel, A. B. Vance, Mgr., plans improvements and enlargements to hotel.
Mo., Springfield.—Grubel Bros., Kansas City, Kans., are reported to erect hotel or office building. (See Theaters.)
Okla., Boynton.—W. T. Cole will erect brick hotel; cost \$8000.
Okla., Tulsa.—A. F. Ault will erect additional story to Hotel Browning; 45x55 ft.; reinforced concrete and brick; composition roof; concrete floors; gas heat; electric lights; cost \$6000.
Tex., Dallas.—Oriental Hotel does not contemplate erection of hotel as lately noted.
Va., Hopewell.—Stuart Hotel Corp., Lynchburg, Va., will erect hotel at Broadway and DuPont Sts.; 8 stories; brick and Indiana limestone; 144 rooms; roof garden; 2 elevators.
W. Va., Logan.—William Ghiz will erect building for hotel, etc. (See Miscellaneous Structures.)

MISCELLANEOUS
Ark., Hot Springs.—Bathhouse.—Sorrell & Latta have plans by Mann & Stern, Little Rock, for bathhouse on U. S. Government reservation; 100x100 ft.; two stories; fireproof; built up roof; reinforced concrete floor; plans being revised to submit to Dept. of Interior, Washington, by June 1; cost \$65,000; indirect steam heating and plumbing, about \$16,000. (Previously noted.)
Fla., Jacksonville.—Clubhouse.—Catholic Club has plans by Chas. P. Niederhauser, 402 St. James Bldg., Jacksonville, for clubhouse; reinforced concrete; 2 stories; 54x100 ft.; steam heat; swimming pool, 30x60 ft.; plans ready Apr. 10; cost \$35,000. (Previously noted.)
Fla., Jacksonville.—Home.—Salvation Army purchased property at Clay and Ward Sts.; plans to erect building.
Fla., Lakeland.—Clubhouse.—Lakeland Golf Assn., Bert E. Betts, Prest., plans to erect club buildings, etc.
Fla., Tampa.—Citadel.—Salvation Army has plans by Bonfoy & Elliott, Tampa, for building; 2 stories; pressed brick; lower floor for auditorium; second floor emergency home and officers rooms. (Lately noted.)
Fla., Tampa.—Clubhouse.—Palma Ceia Golf Assn., W. M. Fielder, Prest., will erect \$15,000 clubhouse.
Ga., Americus.—Clubhouse.—Americus Country Club will erect building. Address the Secretary.
Ga., Rome.—Fair.—North Georgia Fair Assn. will erect buildings to cost \$7000 to \$10,000; construct half-mile track, grandstand to seat 2000, stable to house from 60 to 75 horses; buildings for livestock, poultry, etc.
La., New Orleans.—Clubhouse.—Boston Club will erect building; reported cost \$30,000.
Miss., Columbus.—Clubhouse.—Choctaw Club is having plans prepared by P. J. Krouse, Meridian, Miss., to enlarge clubhouse; improvements to include ballroom, banquet hall and gymnasium.
Miss., Laurel.—Fair.—City will issue \$15,000 bonds for fair. Address The Mayor. (See City and County.)
Mo., Kansas City.—Nurses' Home.—J. A. Robertson will erect 3-story home for nurses at 1022 Harrison St.; cost \$9000.
N. C., Clinton.—Fair.—Sampson County Fair Assn. is having plans prepared by Benton & Benton, Wilson, N. C., for fair buildings.
Tex., Austin.—Clubhouse.—Austin Country Club will erect addition to and remodel clubhouse; frame; stucco finish; shingle roof;

wood and cement floors; direct gravity steam heat; cost \$10,000; Dennis R. Walsh, Archt., Littlefield Bldg., Austin. (Lately noted.)

Tex., Sherman.—Clubhouse.—Woodlawn Country Club plans to erect clubhouse between Sherman and Denison; cost \$30,000.

Va., Norfolk.—Clubhouse.—Norfolk Suburban Club is having plans prepared by Neff & Thompson, Seaboard Bank Bldg., Norfolk, to remodel clubhouse; completion by May 30; frame; shingle roof; wood floors; electric lights.

W. Va., Logan.—Restaurant.—William Ghiz will erect building; lower floor for restaurant to be occupied by Ben Tobin; upper floor hotel.

RAILWAY STATIONS, SHEDS, ETC.

Ky., Cloverport.—Louisville, Henderson & St. Louis Ry., R. N. Hudson, Prest. and Gen. Mgr., Louisville, will erect concrete freight station.

Md., Frederick.—Pennsylvania R. R. Alex. C. Shand, Ch. Engr., Philadelphia, will erect 2-story brick station.

Mo., Joplin.—Missouri Pacific Ry. Co., E. A. Hadley, Ch. Engr., St. Louis, plans to erect freight and passenger station; reported cost \$150,000.

S. C., Anderson.—Charleston & Western Carolina Ry., A. W. Anderson, Gen. Mgr., Augusta, Ga., will erect freight station; 50x300 ft.; brick; slate or terra-cotta roof; 2 stories; 50-ft. paved driveway; cost \$40,000; work to begin soon. (Previously noted.)

W. Va., St. Albans.—Charleston Interurban R. R. is reported to erect \$6000 station.

SCHOOLS

Ala., Birmingham.—City votes June 5 on \$2,000,000 bond issue for school improvements. Address City Commission.

Ala., Jacksonville.—Jacksonville School Dist. plans to issue \$10,000 bonds to erect school; S. W. Tate, Anniston, Ala., is interested.

Ark., Bigelow.—School Board will erect \$25,000 building.

Ala., Decatur.—City will erect \$50,000 high school. Address The Mayor. (Lately incorrectly noted as New Decatur, Ala.)

Fla., Bowling Green.—Board of Public Instruction of DeSoto County, Arcadia, Fla., receives bids until May 8 to erect brick school buildings at Bowling Green and Charlotte Harbor; plans and specifications for Bowling Green school may be obtained from F. J. Kennard, Archt., Tampa, Fla., and for Charlotte Harbor school from William Bradford, Archt., Arcadia; James O. Bickley, County Supt. and Secretary.

Fla., Charlotte Harbor.—Board of Public Instruction of De Soto County, Arcadia, Fla., receives bids until May 8 to erect school. (See Fla., Bowling Green.)

Fla., De Land.—County Board of Education ordered election on \$60,000 bonds to erect brick school; F. M. Miller, Archt., De Land.

Fla., Jacksonville.—Board of Public Instruction, DuVal county, F. A. Hathaway, County Supt., receives bids until May 6, Room 415 Masonic Temple, to erect 4-room brick school at Grand Crossing and similar structure near Seaboard shops, Jacksonville; plans and specifications at office of Mr. Hathaway and Rutledge Holmes, Jacksonville. (Previously noted.)

Fla., Stuart.—Palm Beach County Board of Public Instruction has plans by F. H. Trimble, Fellsmere, Fla., for school; 65x118 ft.; with auditorium projection 40x50 ft.; brick exterior walls; Bird & Sons or Johns-Manville roofing; wood floors; city electric lights; cost \$27,000; bids probably opened May 13. (Lately noted.)

Ga., Atlanta.—Fulton County Board of Education will erect schools on Perkerson property near Capitol hill, near Orchard Knobb Church and on Rock Springs school site; cost \$3000 each.

Ga., Augusta.—Board of Education is having plans prepared by Goodrich, Hafer & Clark, Augusta, for Houghton School to replace burned structure; frontage 145 ft. (Lately noted.)

Ga., Newnan.—Board of Education opens bids May 15 to erect school; 66x166 ft.; brick and wood; tar and gravel roof; cost \$40,000; Haralson Bickley, Archt., Third National Bank Bldg., Atlanta. (Lately noted.)

Ga., Rockmart.—Rockmart School Dist. plans to vote on \$20,000 to \$30,000 bonds to erect school; will confer with architects. Address N. P. Lane, Secy.-Treas.

Ky., Versailles.—Margaret College has plans by Arthur Glanville, Lexington, Ky., for

school and gymnasium; 2 stories and basement; stone basement, brick above; slate roof; hardwood floors; school portion 48x48 ft.; gymnasium 74x56 ft.; cost \$20,000; bids opened about Apr. 25; construction begins about May 1. Address Architect or Owner. (Lately noted.)

La., Alexandria.—Alexandria School Dist. No. 1 votes May 2 on \$20,000 bonds to erect school building; Jonas Rosenthal, Prest. Board School Directors Rapides Parish, Alexandria; D. B. Showalter, Secy.

La., Algiers.—School Board has plans by City Engr. for frame and steel school building; bids opened Apr. 25.

La., Lafayette.—City votes May 2 on \$25,000 bonds to erect white school and \$10,000 for negro school. Address The Mayor.

La., New Orleans.—Department of Public Finances of Counting Div. receives bids until Apr. 25 to erect school in block bounded by Newton, Diana, Huma and Verban Aves.; plans, specifications and blank forms at office City Engineer; A. G. Ricks, Commr.

La., Pineville.—Pineville School Dist. No. 28 votes May 2 on \$30,000 bonds to erect school building; Jonas Rosenthal, Prest. Board School Directors Rapides Parish, Alexandria, La.; D. B. Showalter, Secy.

Md., Baltimore.—St. Benedict's Catholic Church, Rev. A. Luther, pastor, is having plans prepared by F. J. Heldrich, 2151 Wilkens Ave., Baltimore, for dormitory; 2 stories; brick; following contractors estimating: Cowan Building Co., 106 W. Madison St.; J. J. Walsh & Son, 1533 Maryland Ave.; Monmonier & Sorrell, 1711 McCulloh St.; Eyring & Sons, 800 S. 3d St.; L. Schoenlein & Son, 2217 E. Baltimore St.; M. Fisher; all of Baltimore.

Miss., Meridian.—Board of Suprs. passed order for \$12,000 bond issue for Poplar Springs School Dist.

Miss., Philadelphia.—Neshoba County Suprs. ordered election for April 22 on \$30,000 bonds to erect and equip agricultural high school.

Miss., Woodville.—Wilkinson County Agr. High School will erect building; 3 stories; 50x100 ft.; brick; asphalt shingle roof; steam heat; cost \$8000; A. D. Paine, Archt., Harrisburg. (Previously noted under Miss., Natchez.)

Mo., Ironton.—School Dist. No. 26 voted \$15,000 bonds to erect school; G. W. Farrar, Secy., Board of Education. (Previously noted.)

Mo., Marshfield.—Marshfield School Dist. voted \$11,500 bonds to erect school; Chas. M. James, Secy. School Board. (Previously noted.)

N. C., Durham.—Mangum and Reservoir Rural School Districts plan to erect schools. Address Trustees.

N. C., Gastonia.—City will soon select architect for proposed schools; will consider 12-room structures with auditorium; cost not to exceed \$20,000 each.

N. C., Greenville.—School Trustees, T. T. Hayne, Chmn., are considering \$50,000 bond election for school.

N. C., Huntersville.—Huntersville School Dist. voted \$15,000 bonds to erect school; 12 rooms; brick; slate roof; cost \$22,500; heating \$2000. (Lately noted.)

N. C., Wallace.—Wallace School Dist. voted \$12,000 bonds to erect brick school. Address Dist. School Trustees.

N. C., Weldon.—Halifax County Board of Education accepted plans for proposed graded school.

Okla., Ardmore.—City voted \$40,000 school bonds. Address The Mayor. (Lately noted.)

Okla., Bartlesville.—City defeated \$100,000 bond issue for schools. (Noted in March.)

Okla., Edmond.—Edmond School Dist. is reported to vote on \$30,000 high-school bonds. Address Dist. School Trustees.

Okla., Enid.—School Board of Dist. No. 67 will erect school; bids received until Apr. 8; W. H. Roush, Prest.

Okla., Henryetta.—Board of Education has plans by Hawk & Parr, Security Bldg., Oklahoma City, for two schools and two-room annex for school; semi-fireproof; pitch, gravel and asphalt shingle roof; concrete and wood floors; low-pressure steam heat; cost \$30,000; bids opened April 19. Address John T. Hefley, Secy. (Lately noted.)

Okla., Rosston.—School Board, W. H. Ross, director, opens bids about April 25 to erect school; 81x45 ft.; 2 stories and basement; ordinary construction; pitch and gravel roof; yellow pine floor; low-pressure steam heat; cost \$10,500; Hawk & Parr, Archts., Oklahoma City.

S. C., Enoree.—Enoree-Consolidated School Dist. No. 17 votes Apr. 20 on \$5000 bonds to erect school; 8 or 10 classrooms. Address D. L. Poole, Chmn., Enoree.

S. C., Greenwood.—Trustees will erect schools at Greenwood Mill and Grendel No. 1, mill villages; 2 rooms; cost \$4500 each.

S. C., Orangeburg.—State A. & M. College will erect two buildings, 62x167 ft.; 3 stories; ordinary brick; metal tile roof; steam heat and electric lights from central plant; cost \$30,000 each; W. F. Whittaker, Archt., Orangeburg; construction to begin April 20; construction by owner, who may be addressed. (Lately noted damaged by fire.)

Tenn., Bartlett.—School Board contemplates erecting \$25,000 brick and stone high school; Miss Charl Williams, Ford Taylor, W. T. Bond and J. H. Aycock, committee to select site.

Tenn., Channahon.—City is having plans prepared by Clarence T. Jones, Chattanooga, for school; 8 rooms and auditorium; brick; 2 stories and basement; composition roof; hot-air or steam heat; plans ready Apr. 12.

Tenn., Chattanooga.—Hamilton county purchased site in Wauhatchie Valley and will erect school; 6 rooms; cost \$10,000 to \$20,000. Address School Commrs.

Tenn., Cleveland.—Bradley County Commissioners will issue \$10,000 bonds for schools.

Tenn., Covington.—City, J. Winfield Darby, Mayor, will erect school building on S. College St.; brick; metal roof; wood floors; city lighting; heating not determined; architect not selected; bids opened early in May; cost \$15,000. Address L. L. Bringle, Covington. (Lately noted.)

Tenn., Isabella.—School Trustees have \$3000 appropriation to erect grammar school.

Tenn., Fountain City.—See Tenn., Powell Station.

Tenn., Madisonville.—Monroe county voted \$50,000 bonds to erect schools as follows: Madisonville, \$30,000 (city to furnish \$6000 additional); Sweetwater, \$20,000 (city to furnish \$6000 additional); Tellico Plains, \$10,000. Address County Commrs.

Tenn., Nashville.—Board of Education rejected all bids to erect east wing of Hume-Fogg high schools and will have plans revised by William B. Ittner, St. Louis, and associate architects, H. C. Hibbs and Donald W. Southgate, both of Nashville; has \$200,000 appropriation. (Lately noted.)

Tenn., Newport.—Cocke County Commrs. ordered \$30,000 bond issue to erect central high school.

Tenn., Powell Station.—Knox County Board of Education, W. B. Cobb, Chmn., receives bids until Apr. 15 to erect schools at Powell Station, Lincoln Park and South Knoxville; plans and specifications at office L. C. Waters and Albert Bauman, Archts., Knoxville; also receive bids until May 1 to erect schools at Fair Garden and Fountain City; plans and specifications at office J. H. Ryne, Archt., Knoxville; Powell Station and Lincoln Park structures 66x79 ft.; ordinary construction; gravel roof; wood floors; steam heat; electric lights; cost \$15,000. (Lately noted.)

Tenn., Sweetwater.—See Tenn., Madisonville.

Tenn., Tellico Plains.—See Tenn., Madisonville.

Tex., Alvarado.—Barnesville School Board lets contract Apr. 26 to erect 2-story brick school.

Tex., Royce City.—Royce City School Dist. will erect school building; 12 rooms and auditorium; brick; probably tar and gravel roof; wood floors; heating not decided, probably stoves; cost \$20,000; bids opened within 30 days. Address School Board, Royce City. (Lately noted.)

Tex., College Station.—Agricultural and Mechanical College of Texas has plans by R. Adelsperger, Prof. of Architecture, College Station, for judging pavilion; 100x200 ft.; fireproof; brick, concrete and steel; cement tile roof; tan-bark arena and concrete floors; steam heat; electric lights; cost \$40,000; bids opened Apr. 10. (Lately noted.)

Tex., Dallas.—Estill School Dist. voted \$8000 bonds to erect brick school, Address C. H. Elshy, R. D. No. 5, Dallas. (Lately noted.)

Tex., Elm Mott.—Elm Mott Independent School Dist. Trustees, O. C. Elliott, Prest., receive bids until Apr. 22 to erect school building; plans and specifications at Central Texas Bank, Waco. (Previously noted to have voted \$8000 bonds.)

Tex., Ennis.—City voted \$30,000 bonds to supplement \$50,000 already voted to erect school building; W. D. Farris, Mayor.

Tex., Haslet.—Common School Distr. No. 98, W. W. Burgess, G. T. Clower and L. C.

Day, Trustees, has plans by A. J. Cisco, Tex., for school; 2 stories; six rooms and auditorium; brick and stone; metal roofing; concrete and wood floors; cost \$30,000; furnace heat \$300. (Lately noted to vote on \$5000 bond issue.)

Tex., Iowa Park.—City voted \$16,000 bonds for schools. A. L. Brulaker, Prest. Board.

Tex., Laredo.—School Board, M. S. Ryan, Prest., will erect 3 schools; semi-drepan tin roof; heating not decided; electric lights; cost about \$70,000; Archt. not selected. (Lately noted to have voted \$80,000 bonds.)

Tex., Lometa.—Lometa Ind. School Dist. voted \$10,000 bonds to erect school; plans in progress, and contract let at their completion. Address School Board.

Tex., Marlin.—City contemplates erecting \$65,000 high school. Address The Mayor.

Tex., San Antonio.—School Board selected Alfred Giles and C. D. Scutter, architects, San Antonio, for proposed high school; Adams & Adams, San Antonio, for east side school, 16 rooms, and Beverly Spillman, San Antonio, for west side school, 12 rooms.

Tex., San Antonio.—School Board is having plans prepared for \$300,000 high school on Garden St.

Tex., San Elizario.—San Elizario School Dist. defeated \$6000 bond issue to erect school. (Lately noted.)

Va., Charlottesville.—University of Virginia is having plans prepared by Walter D. Blair, 599 5th Ave., New York, for chemical laboratory, 2 stories; 140x140 ft.; brick walls; reinforced concrete floors; slate roof on frame construction; cost \$55,000.

Va., Norfolk.—City opens bids Apr. 17 to erect Walter Herron Taylor's School; 3 rooms; rough brick exterior up to sill line of first story windows; stucco above; 12x12 ft.; cost \$50,000; John Kevan Peebles, Archt., Norfolk. (Lately noted.)

Va., Norfolk.—School Board has plans by James W. Lee, Norfolk, for 2-story brick school in Ballentine Pl., Norfolk county.

Va., Petersburg.—School Board, J. M. Townsend, Clerk, receives competitive plans until May 1 for high school, for which \$10,000 is available; architects wishing to compete must send names to F. M. Martin, Supt. of Schools, Petersburg. (Lately noted.)

Va., Portsmouth.—School Board of Washington Magisterial Dist. adopted plans by Ferguson & Calrow, Norfolk, for South Norfolk school; 16 rooms; cost \$35,000; also adopted plans by Wm. Newton Diehl, Norfolk, for Campostella school, 4 rooms, cost \$10,000; also by J. W. Lee, Norfolk, for Pipers Pt. school; 4 rooms and basement; hot air heat; red brick with stone trim. (Previously noted.)

Va., Windsor.—School Board contemplates erecting high school; Park F. Deans, Prof. L. T. Hall, W. J. Rhodes, C. F. Joyner and L. Bailey, committee.

Va., Barboursville.—School Board of Barboursville Ind. Dist. ordered election for May 5 on \$4500 bonds to improve schools.

W. Va., Richwood.—Richwood School Dist. will erect 2-story and basement school; about 72x100 ft.; ordinary construction; cost \$60,000; S. W. Ford, Archt., Clarksburg, W. Va. (Lately noted.)

STORES

Ala., Mobile.—J. F. Upchurch, Prest. of Bienville Drug Co., will remodel store building; install folding doors; prism glass; fixtures; steel beam ceiling, etc.; cost \$7500.

Fla., De Funiak Springs.—R. E. L. McKaskill will erect brick business building.

Fla., Live Oak.—H. W. Taylor, Prest. of Standard Lumber Co., acquired Ethel Hotel property and will erect 3 brick stores and small hotel.

Fla., Miami.—John Seybold will erect 2-story concrete business building; 25x50 ft. Fla., Miami.—Phillip Ullendorf will erect business building; 6 stories.

Fla., Miami.—Geo. A. Paddock will erect business building.

Fla., Miami.—J. J. Quinn will erect 2-story business building with 100-ft. front; lower floor, stores; upper floors, apartments.

Ga., Atlanta.—Arthur Tufts will erect 2-story and basement building at Spring and James Sts.

Ga., Macon.—Union Dry Goods Co. will erect store building; 5 stories; reinforced concrete; fireproof; cost \$100,000. (Lately noted.)

Ga., Wrightsville.—E. A. W. Johnson is reported to erect business building and opera house to replace burned structure at least \$25,000.

Mo., Kansas City.—Cora and Floy Campbell let contract to John Blake, 72d and Beliefontaine Sts., Kansas City, to erect dwelling; 2 stories; 32x30 ft.; concrete; tile roof; hardwood floors; electric lighting; fur-

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

nace; cost \$5000; Shepard & Belcher, Architects, Reliance Bldg., Kansas City. (Lately noted.)

Mo., St. Louis.—Bush-Burns Realty Co. has contract to erect residences at 4347 McPherson Ave. and 4644 Maryland Ave.

Mo., St. Louis.—John Rudnay let contract to August Gruenschlag, St. Louis, to erect 2 one-story dwellings; cost \$4000.

Mo., St. Louis.—Westminster Place Div. Co. let contract to Bush-Burns Realty Co., St. Louis, to erect 3-story dwelling; cost \$10,000.

Mo., St. Louis.—Chas. Gundelach let contract to C. I. Seinhert, St. Louis, to erect 2-story dwelling; cost \$3000.

Mo., St. Louis.—H. A. Heper let contract to E. A. Ellerbaum, St. Louis, to erect 2-story dwelling; cost \$4000.

N. C., Greensboro.—H. E. Cartland let contract to Brooks & Hunt, Greensboro, to erect 10-room residence.

N. C., Wilmington.—Fidelity Trust & Development Co. let contract to Rhodes & Underwood, Wilmington, to erect a number of 6 and 7-room bungalows; frame and brick; slate, tile and shingle roof; wood floors; cost \$2500 each; B. H. Stephens, Archt., Wilmington. Address owner. (Lately noted.)

Okla., Norman.—E. L. Cralle let contract to erect residence; brick veneer; cost \$10,000.

S. C., Charleston.—Dr. H. A. Sneathers let contract to W. H. Smith, 57 South St., Charleston, to erect dwelling; 28x54 ft.; frame; tin roof; electric lighting; cost \$3000; hot-water heat \$350; S. C. Barbot, Archt., 26 Broad St., Charleston.

S. C., Greenville.—H. P. Burbage has plans by and let contract to S. F. Lowery, Greenville, to erect lately-noted residence; 30x32 ft.; 9 or 10 rooms; wood; shingle roof; wood and tile floors; heating and lighting not decided; cost \$5000. Address owner. (See Machinery Wanted—Heating Plant; Electric Fixtures.)

Tenn., Chattanooga.—Dr. Raymond Wallace let contract to Chandler & Campbell, Chattanooga, to erect residence; Clarence T. Jones, Archt., Chattanooga.

Tenn., Knoxville.—Harvey A. Pickle let contract to A. J. Stair, Knoxville, to erect dwelling; 42x47 ft.; brick-veneer; asphalt shingle roof; hardwood floors; vacuum steam heat; electric lighting; cost \$6500; Albert B. Baumann, Archt., Knoxville.

Tex., Fort Worth.—H. W. Williams & Co. let contract to Buchanan & Gilder, Fort Worth, to erect building; 5 stories and basement; 75x200 ft.; completion in fall; cost \$100,000; Sanguinet & Staats, Architects, Fort Worth.

Tex., San Marcos.—A. C. Feltner let contract to erect store and residence. (See Stores.)

Va., Norfolk.—F. C. Mercer let contract to L. McCloud, Norfolk, to erect 2-story brick residence; cost \$6000.

Va., Norfolk.—Mrs. Margaret F. Meath let contract to C. V. Carner, Norfolk, to erect 2-story brick residence; cost \$4500.

Va., Roanoke.—H. B. Stone let contract to C. C. Shockey, Roanoke, to erect 10-room dwelling; brick veneer; slate roof; hardwood floor on first floor, pine on second floor; hot-water heat; electric lights; cost \$6000; C. B. Kearfott, Archt., Bristol, Tenn. (Lately noted.)

GOVERNMENT AND STATE

Ga., Savannah.—Quarantine Station.—Treasury Dept., James A. Wetmore, Acting Supervising Archt., Washington, D. C., let contract to E. Morgan, Savannah, to erect detention barracks, bathhouse, gangway, wharf, etc., at Quarantine Station; cost \$28,373. (Noted in March.)

HOSPITALS, SANITARIUMS, ETC.

Va., Norfolk.—St. Vincent's Hospital let contract to John Waters, 23 E. Center St., Baltimore, to erect nurses' home; 3 stories; reinforced concrete and brick; accommodations for 80 to 100.

HOTELS

Fla., Howey.—W. H. Carr, Leesburg, Fla., prepared plans and let contract to Mr. Wood, Ocala, Fla., to erect hotel; structure 189.5 ft. long; main portion 40x102 ft.; frame; 3 stories; stucco finish; wings 32x34 and 32x34 ft.

Fla., Miami.—McAllister Hotel Co. is reported to have let contract to Frank Seery, New York, to erect hotel; 175 rooms; fire and storm proof; 8 stories; steel and concrete; 100x40 ft.; steam heat; electric lights and elevator; also let contract for plumbing, electric wiring, etc.; Biscayne Constr. Co., Miami, has contract for excavation; Frohling & DeGarno, Architects, Miami. (Lately noted.)

Fla., Palatka.—Dr. Geo. E. Welch let contract to Buckland & Fitchner, Jacksonville, to erect hotel; brick; 47x98 ft.; 3 stories; arch stone trimmed; 32 rooms; steam heat; vacuum cleaning system; tar and gravel roof; cost \$30,000; H. J. Klutho, Archt., St. Johns Bldg., Jacksonville.

Fla., Wilbur-by-the-Sea.—Jacob W. Wilbur, 89 State St., Boston, Mass., let contract to C. C. Price, Port Orange, Fla., to erect lately-noted hotel; 130x32, with two L's 32x32 ft.; S. H. Gove, Archt., Daytona, Fla. (See Machinery Wanted—Electric-light Plant; Heating Plant.)

Ky., Ashland.—Ashland Hotel & Realty Co. let contract to Pelphray & Davis, Ashland, to erect addition to Ventura Hotel; brick; concrete floors; Goldsmith metal tile built-up roof; concrete sidewalks and vault lights; 42x52 ft.; 4 stories and basement; cost \$35,000; J. W. Drach, Archt., Cincinnati. (Lately noted.)

Miss., Meridian.—Mrs. B. G. Heidelberg let contract to Hancock & McArthur to remodel Heidelberg Inn; cost \$5000 to \$6000.

N. C., Lumberton.—Lumberton Hotel Co. let contract to J. E. Beaman, Raleigh, N. C., to erect hotel, and to Holmes Electric Co., Fayetteville, N. C., for electric installation; 50x92 ft.; 4 stories; ordinary brick construction; Barrett specification roof; city lighting; electric elevator; cost \$26,000; Frank B. Simpson, Archt., Raleigh. (Previously noted.)

Tenn., Jackson.—Southern Hotel, R. L. Burgess, Mgr., let contract to F. L. McKnight, Memphis, to improve hotel; will provide 40 additional bedrooms with private baths, palm court in center of lower floor, etc.; cost \$40,000. (Lately noted.)

Tex., Bryan.—Tyler Haswell let contract to T. B. Hubbard, Bryan, to erect annex to Hotel Bryan; 2 stories; 27x80 ft.; concrete frame; brick and tile curtain walls; tar and gravel roof; concrete floors; cost \$14,000; heating plant, \$1000; Wm. E. Beilharz, Archt., Bryan.

Tex., Seguin.—City Hotel Assn. let contract to Coleman & Jenkins, Seguin, to erect hotel; 38x90 ft.; reinforced concrete; tile floors; cost \$45,000. Address H. H. Weinert; no proposals wanted.

MISCELLANEOUS

Ark., Pine Bluff.—Clubhouse.—Pine Bluff Golf and Country Club let contract to Marvick & Marvick to erect club building; completion by July 4; cost \$15,000; Mitchell Seligman, Archt., Pine Bluff. (Previously noted.)

Md., Catonsville.—Stable.—J. W. McMillan, Montrose and Idlewild Aves., let contract to Leimbach & Reich, Delray Ave., Catonsville, to erect stucco stable and garage; Mottu & White, Architects, 322 N. Charles St., Baltimore.

RAILWAY STATIONS, SHEDS, ETC.

La., Leesville.—Kansas City Southern R. R., C. E. Johnson, Chief Engr., Kansas City, Mo., let contract to Eppard & Roark, Anderson, Mo., to erect station; red brick and stucco; ornamental tile roof; 450 ft. concrete curbing in front of building; completion by June 1; cost \$15,000 to \$20,000. (Lately noted.)

N. C., Winston-Salem.—Norfolk & Western Ry., J. E. Crawford, Ch. Engr., Roanoke, Va., let contract to Willard, Boggs & Co., Spartanburg, S. C., to erect freight station; freight-house, 35x204 ft., 1 story; freight office, 41x59 ft., 2 stories and basement; Johns-Mansville or Barrett specification roof; 3-in. oak floors; cost \$40,000; hot-water heat \$1500. Address Contr.

SCHOOLS

Ark., Kingsland.—City let contract to Southern Construction Co., Little Rock, to erect school; 6 rooms and auditorium; J. A. McCabe, Kingsland, in charge of construction. (Lately noted.)

N. C., Sanford.—School Board, W. S. Weatherspoon, Secy., opens bids about May 1 to erect school building; 2 stories and basement; about 58x106 ft.; ordinary construction; Barrett roof; gum floor; fan furnace system of heat and ventilating; electric lighting; 9 classrooms, office, library, auditorium, etc.; brick and stone trimmings; slate blackboards; cost \$20,000; C. Gadsden Sayre, Archt., Anderson, S. C. (Previously noted.)

Okla., Colbert.—School Board let contract to J. J. Rooney, Muskogee, Okla., to erect school; 2 stories and basement; mill construction; brick walls; tar and gravel roof; joist floor construction; steam heat (separate contract); acetylene gas lighting; cost \$13,000; Jewell Hicks, Archt., Durant, Okla. (Lately noted.)

Okla., Frederick.—School Board let contract to A. H. Krause, Frederick, to erect school for consolidated district No. 6; 4 rooms; brick; W. M. Johnson, Clerk of Dist.

Tex., Big Springs.—Big Springs Independent School Dist. let contract to A. J. Olson, heat; brick; gravel roof; wood and concrete; cost \$35,000; C. H. Page & Bro., Architects, Austin and Houston. (Noted in March.)

Tex., Corsicana.—City let contract to J. E. Metcalf, Box 122, Corsicana, to erect school building; 60x80 ft.; 3 stories; brick, stone and wood; asbestos roof; wood floors; cost \$20,000; heating plant, \$3000; lighting plant, \$250; H. O. Blandin, Archt., Corsicana. Address Contr. (Lately noted.)

Tex., Georgetown.—Southwestern University let contract to N. O. Harvey, Fort Worth, to erect science building; 3 stories and basement; concrete reinforced with steel; brick facing; hollow tile walls; fireproof; reinforced concrete partitions, stairways, roof, etc.; vacuum steam heat; electric lighting; cost \$50,000; M. L. Waller & Co., Architects, Fort Worth. (Lately noted.)

Tex., Lakenon.—School Board let contract to J. B. Orenbaum, Hillsboro, Tex., to erect school; 4 rooms; frame; 64x72 ft.; cost \$4000; T. J. and J. O. Galbraith, Architects, Hillsboro, Tex., and Slaughter Bldg., Dallas.

STORES

Ala., Atmore.—W. M. Carney Mill Co. let contract to J. T. Jett & Co., Mobile, to erect store and office building; 90x100 ft.; brick; composition roof; wood joist floor construction; hand-power elevators (removed from old building); cost \$20,000; Hutchisson & Denham, Architects, 608-9 National City Bank Bldg., Mobile. (Lately noted.)

Ala., Piedmont.—Randall & Edwards have contract to erect Sparks & Sharp Bldg.

Ark., Heber Springs.—T. E. Reeves let contract to erect 2 store buildings to replace burned structures.

Ark., Heber Springs.—T. E. Olmstead let contract to erect building to replace burned structure.

Ark., Pine Bluff.—Mann-Tankersley Drug Co. let contract to Price & Jones, Pine Bluff, to erect 2-story brick business building; 50x120 ft.; cost \$795; Mitchell Seligman, Archt., Pine Bluff. (Previously noted.)

D. C., Washington.—Central High Mercantile Co. let contract to Henry B. Davis, 813 14th St. N. W., Washington, to erect store and apartment building at 11th St. and Florida Ave.; 17.2x89 ft.; brick; slate and tin roof; wood floors; electric lights; cost \$9066; hot-water heat, \$645; all subcontracts let; A. B. Mullett & Co., Architects, Union Trust Bldg., Washington. (Lately noted.)

Ga., Augusta.—McKenzie & Thompson, 84½ Broad St., have contract to erect business building. (See Warehouses.)

Okla., Apache.—J. T. Wells Hardware & Implement Co. let contract to Loyd & Jordan to erect building; 50x120 ft.; brick; gravel roof; Peter Meeting, Archt., Anadarko, Okla.

Okla., Hollis.—Dr. J. E. Jones let contract to M. T. Murray, Altus, Okla., to erect business building; 50x110 ft.; ordinary construction; pitch and gravel roof; hand-power elevator; cost \$8000; Hawk & Parr, Architects, Oklahoma City.

Okla., Medford.—Geo. W. Haugh, Milan, Kan., let contract to Eugene Stachelin, Medford, to erect business building; 50x100 ft.; brick and concrete; gravel roof; cement floor; cost \$4000; construction begun.

Okla., Sapulpa.—J. E. Burgess has contract to erect Crowman Bldg.

Okla., Oklahoma City.—E. C. Meek, 1220 E. 8th St., let contract to E. H. Bush, 1015 W. Main St., Oklahoma City, to erect store and rooming-house; 25x140 ft.; 2 stories; brick; tar and gravel roof; cement and wood floors; natural-gas heat; cost \$7500; electric lights; cement sidewalk; Frank Brown, Archt., Baum Bldg., Oklahoma City. Address Owner.

S. C., Greenville.—Sullivan-Markley Hardware Co. let contract to Jamieson & Morris, Greenville, to remodel building on Main St. and erect 3-story store and warehouse on Main St.; mill construction; tar, gravel and tin roof; wood and reinforced concrete floor;

steam heat; sprinkler system; overhead traction freight elevator; cost \$16,000; F. H. & J. G. Cunningham, Architects, Greenville. Address contractors. (Lately noted.)

Tenn., Knoxville.—Morris Bart let contract to Galyon & Son, Knoxville, to erect store building; 50x135 ft.; 2 stories and basement; brick; gravel roof; pine floors; electric lights; cost \$10,000; A. B. Bauman, Archt., Knoxville; all contracts let. (Lately noted.)

Tex., Melvin.—J. N. Mason let contract to erect store building. (See Bank and Office.)

Tex., Port Arthur.—H. J. Pelta, Jefferson City, Mo., let contract to Fred Drumage, Port Arthur, to erect store building for Hodges Dry Goods Co.; 25x100 ft.; brick and concrete; Barrett specification roof; gas heat; electric lights; cement sidewalks; F. W. Steinman & Sons, Architects, Beaumont. (Lately noted.)

Tex., Port Arthur.—S. E. Newton let contract to Fred Drumage, Port Arthur, to erect store; 25x100 ft.; brick and concrete; Barrett specification roof; tile floors; electric wiring; cost \$7000; F. W. Steinman & Son, Architects, Beaumont. (Lately noted.)

Tex., Port Arthur.—W. E. Hall let contract to Fred Drumage, Port Arthur, to erect business and office building; 25x140 ft.; brick and concrete; composition Barrett specification roof; tile floors; city electric lights; cement sidewalks; cost \$8000; F. W. Steinman & Son, Architects, Beaumont. (Lately noted.)

Tex., San Marcos.—A. C. Feltner let contract to Geo. L. Kennedy, San Marcos, to erect business and residence building; 36x72 ft.; brick walls plastered; metal ceiling; concrete and wood floors; electric lights; cost \$3300; Roy L. Thomas, Archt., Austin. (Lately noted.)

WAREHOUSES

Ga., Augusta.—McKenzie & Thompson, 84½ Broad St., have contract at about \$60,000 to erect 2 warehouses, business building on Broad St. and apartment-house to replace burned structures. (See Machinery Wanted—Building Materials.)

Ga., Augusta.—Southern Cotton Oil Co., Savannah, Ga., let contract to Carson Construction Co., Savannah, to erect warehouse; 175x100 ft.; reinforced concrete and hollow tile; reinforced concrete and tile roof; reinforced concrete flooring; cost \$24,000; construction to begin immediately; Wm. M. Torrance, Consult. Engr. (Lately noted.)

La., Abbeville.—People's Independent Warehouse, Inc., let contract to Montague Bros., Abbeville, to erect rice warehouse; 92x240 ft.; frame; composition or ready roofing; wood floors; cost \$6500; R. J. Montague, Archt., Abbeville. (Lately noted.)

La., Lake Charles.—Berdon-Campbell Furniture Co. let contract to Geo. D. Price, Lake Charles, to erect warehouse; 50x100 ft.; metal-clad construction; composition roof; double wood floors; cost \$3000; J. C. Carter, Archt., Lake Charles.

Mo., St. Louis.—A. R. Hoffman let contract to R. Mederacke, St. Louis, to erect 5-story warehouse; cost \$18,000.

N. C., Kinston.—S. T. Hooker, Greenville, N. C., let contract to Isaac Rochelle, Kinston, to erect warehouse; 121x252 ft.; brick; tin roof; wood floors; electric lights; cost \$18,000 to \$20,000. (Lately noted.)

N. C., Durham.—Central Storage Co. let contract to Wilkerson & Bowles, Durham, to erect 2 warehouses; 110x180 ft.; cost \$20,000. (Lately noted.)

S. C., Greenville.—Sullivan Hardware Co. let contract to erect store and warehouse. (See Stores.)

Roofs for Southern Buildings.

At the recent meeting of the American Cotton Manufacturers' Association at Atlanta, Ga., the Baltimore Roofing & Asbestos Manufacturing Co., Asbestos, Md., distributed in the convention hall a letter especially addressed to the delegates calling attention to conditions in the roofing market, and especially to its asbestos felts and asbestos roofing cement, and pointing out that an important factor for asbestos built-up roofing is its light weight, because, being of a mineral nature and requiring no slag or gravel surfacing, 300 to 400 pounds of dead weight per square is eliminated and a practically monolithic roof obtained. It is claimed. It was also suggested that in the South, where no snow-load is necessary, lighter construction is possible and therefore a consequent saving in cost. The Georgia agent for this asbestos built-up roofing is the Barrett Roofing Co., Third National Bank Bldg., Atlanta, Ga.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

"WANTS"

Air Compressor.—American Metallic Packing Co., Walnut and Clark Sts., Lexington, Ky.—Ingersoll or Sullivan used 10x10x10 steam-driven air compressor.

Aluminum.—See Tubing, etc.—Southern Cotton Picker Co.

Bank Fixtures.—Tilghman Bank, Tilghman, Md.—Prices on bank fixtures for \$300 bank building.

Bevel Gears.—Southern Cotton Picker Co., G. P. Schlocker, Secy.-Treas., 72 Union St., Memphis, Tenn.—Bevel gears and shafting.

Boiler, Engine, etc.—W. S. Payne, Silver King Mining Co., 124½ Pine St., Abilene, Tex.—Prices on 60 H. P. engine; also pump, drill and boiler; for plant, Lampasas, Tex.

Bridge Construction.—Summersville, W. Va.—Bids until May 9 to construct 2 reinforced concrete arch bridges in Nicholas county; blueprints obtainable from State Road Bureau, R. P. Davis, Bridge Engr., Morgantown, W. Va.

Bridge Construction.—Hallfax County Commrs., Houston, Va.—Bids until April 21 to construct steel and concrete approaches 20 ft. long to bridge over Staunton River near Brookneal; plans and specifications on file with County Clerk at Houston and State Highway Commission; G. P. Coleman, State Highway Engr., Richmond.

Bridge Construction.—Franklin County Commrs., Rocky Mount, Va.—Bids until April 24 to construct steel bridge 81 ft. long over Blackwater Creek at Deyleries Ford; plans and specifications on file at Clerk's office, Rocky Mount, and office State Highway Commission, Richmond; further information from G. P. Coleman, State Highway Commr., Richmond.

Bridge Construction.—S. L. Barrow, care First National Bank of Blackstone, Blackstone, Va.—Bids until April 20 to construct steel superstructure of bridge 203 ft. long over Nottoway River between Nottoway and Lunenburg counties at the Falls; plans and specifications on file at First National Bank of Blackstone, at Clerk's office, Nottoway Courthouse and office of State Highway Commission, Richmond, Va.; G. P. Coleman, State Highway Commr., Richmond.

Bridge Construction.—Gus G. Singleton, County Clerk, Paducah, Ky.—Bids until May 2 to construct 30-ft. concrete bridge on Clark line road and 18-ft. concrete bridge on Hinkleyville Rd.; plans and specifications on file with County Clerk.

Butter Machinery.—Remington Creamery Co., Remington, Va.—Butter manufacturing outfit; second-hand considered.

Building Material.—McKenzie & Thompson, 84½ Broad St., Augusta, Ga.—Prices on building materials.

Building Materials, etc.—Americus Automobile Co., Walter Rylander, Mgr., Americus, Ga.—Prices on building materials, electric elevator, tile for showroom floor, plate glass, etc.

Canning Machinery.—W. H. Heffner, Bolivia, N. C.—Addresses of manufacturers of canning machinery suited to sweet potatoes.

Cars (Flat).—Lenox Sawmill Co., Lenox, Ky.—Prices on second-hand flat cars.

Cars.—American Metallic Packing Co., Walnut and Clark Sts., Lexington, Ky.—10 to 15 used standard gauge flat cars, 80,000 capacity.

Castings.—Southern Desk Co., Hickory, N. C.—Correspondence with foundry proprietors having plant equipped for making school desk castings in large quantities.

Chain (Steel, Roller).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 1100 ft. steel roller chain, schedule 9473, delivery Washington.

Chemical Products.—See Leather, etc. Fischer & Berlinger.

Clothing.—See Hosiery, etc.—Ashel A. Tejada G.

Cold-storage.—General Hospital, Danville, Va.—Plans and specifications for cold-storage room.

Colors.—See Leather, etc.—Fischer & Berlinger.

Concrete Construction, etc.—Dept. of Interior, U. S. Reclamation Service, A. P. Davis, Ch. Engr., Washington, D. C.—Bids at U. S. Reclamation Service, Powell, Wyo., until May 3 for construction on Shoshone Project, Wyoming; 16,000 cu. yds. excavation, 1500 cu. yds. reinforced concrete, 5500 sq. yds. paving and placing 120,000 ft. lumber in wooden structures; work located near Garland, Mantua, Frannie, Deaver and Cowley, Wyo., on C. B. & Q. Ry. Address Reclamation Service at Washington, Denver or Powell.

Concrete Construction, etc.—Dept. of Interior, U. S. Reclamation Service, A. P. Davis, Ch. Engr., Washington, D. C.—Bids at U. S. Reclamation Service, Malta, Mont., until April 25 for structures, Bowdoin Canal, Milk River Project; 6000 cu. yds. excavation, 300 cu. yds. reinforced concrete, 720 sq. yds. paving, placing 17,000 lbs. reinforcement steel and placing 50,000 ft. B. M. of lumber in wooden structures; work located 7 mi. east of Malta, Mont., near Strater and Bowdoin stations, on Great Northern Ry. Address Reclamation Service at Washington, Denver or Malta.

Cotton Machinery.—J. W. Yount, Secy.-Treas., Catawba Cotton Mills, Newton, N. C. 20 twisters, 2 spoolers and 2 baling attachments (entwistle).

Crane.—Lewter F. Hobbs, Seaboard National Bank Bldg., Norfolk, Va.—20-ton standard gauge locomotive crane.

Dam Construction.—Gonzales Water Power Co., Gonzales, Tex.—Bids until April 20 to complete dam on Guadalupe River; steel piling, necessary machinery and quantity of material on ground; for plans and specifications and other information address Frank S. Taylor, Consult. Engr., Scarborough Bldg., Austin, Tex.

Disinfectant Machinery.—J. E. Toole, Arlington, Ga.—Data and prices on machinery to manufacture disinfectants and floor sweeps.

Drill.—See Boiler, Engine, etc.—W. S. Payne, Silver King Mining Co.

Dry Goods.—See Hosiery, etc.—Setton, Friedmann & Co.

Electric Fixtures.—H. P. Burbage, Greenville, S. C.—Prices on electric fixtures for \$5000 residence.

Electric-light Plant.—Jacob W. Wilbur, 89 State St., Boston, Mass.—Prices on electric-light plant, alternating current; sufficient to furnish 25 houses, 25 street lamps and hotel.

Electrical Equipment.—Geo. L. Williams, Mayor, Metter, Ga.—Prices on electrical equipment. (City voted \$8500 bonds to construct electric plant.)

Electrical Equipment.—City of Henryetta, Okla., M. A. Berman, City Clerk.—Bids until April 2 on pump-motor set, generator set installed with auxiliaries and electric transmission line; copies of plans and specifications obtainable from City Engr. for \$5.

Electrical Machinery.—Charlottesville & Albemarle Ry. Co., Charlottesville, Va.—50 or 75 K. W. motor generator set; motor to be 2300-volt, 60-cycle; generator 250-volt, direct current.

Electrical Machinery.—Livingston Light & Power Co., S. O. Kennedy, Gen. Mgr., Livingston, Tenn.—Prices on six 25 K. V. A. high-tension transformers; water-wheel, about 150 H. P., 40-ft. head; governor for wheel; pole line and house wiring supplies; meters; lightning arresters.

Electrical Machinery, etc.—J. H. Knudsen (plumbing, heating and lighting contractor), Little Rock, Ark.—Prices on good rebuilt oil engines and dynamos for isolated light and water-works systems; individual water supply systems of various types, and small ice and refrigerating plants for residences, hotels, markets, etc.

Electrical Supplies.—Knox Lumber Co., Hiram Knox, Prest., Hemphill, Tex.—Electrical supplies. (Erecting lumber plant of 150,000 ft. daily capacity.)

Elevator (Electric).—See Building Materials, etc.—Americus Automobile Co.

Elevator Material.—See Metal (Babbitt), Metal Paints, etc.—Acme Limestone Co.

Engine.—J. C. Steele & Sons, Statesville, N. C.—Second-hand engine; 40 to 60 H. P.; slide valve or quick cut-off type.

Engine (Gasoline).—Southern Cotton Picker Co., G. P. Schlocker, Secy.-Treas., 72 Union St., Memphis, Tenn.—1 H. P. gasoline engine.

Engines (Oil).—See Electrical Machinery, etc.—J. H. Knudsen.

Excavator (Drag-line).—H. W. Bennett & Co., 15 Broad St., New York.—Drag-line excavator, 1½ to 2½ yd. capacity; Sauerman or cable excavator type; give full details.

Fans (Suction).—See Tubing, etc.—Southern Cotton Picker Co.

Farming Machinery.—Interstate Land & Investment Co., Bert E. Betts, Secy., Lakeland, Fla.—Catalogues and prices on machinery for clearing, plowing, grubbing, disking, seeding, mowers, rakes, harrows, plows, wagons, rollers, tedders, hay presses, hay scales, etc.

Gas Plants.—Gulf Iron Works, Tampa, Fla.—Data and prices on plants furnishing illuminating gas for towns of 10,000 inhabitants.

Gasoline Engine.—John F. Drew, Melvin, Tex.—Prices on 2 H. P. gasoline engine.

Glove Machinery.—Gardner & Davis, Kings Mountain, N. C.—Data on establishment of glove factory and prices on machinery.

Golf Supplies, etc.—Lakeland Golf Association, Bert E. Betts, Prest., Lakeland, Fla.—Catalogues and prices on golf course supplies, etc., for golf and country club with boating, tennis and bathing interests.

Handles.—H. A. Stilwell, 41 S. 15th St., Philadelphia, Pa.—Names and addresses of manufacturers of short pick handles.

Hardware.—Guillaume Pierre Molinard, 8-10 Rue Lamartine, Port de France, Martinique.—Addresses of firms making and handling hardware, enameled ware of all kinds for domestic use; this includes pots and vessels for use in kitchen; prefers French language.

Heating.—R. S. Webb Co., 108 W. Short St., Lexington, Ky.—Prices on hot-water heating equipment for \$7000 residence.

Heating Plant.—H. P. Burbage, Greenville, S. C.—Prices on heating plant for \$5000 residence.

Heating Plant.—Jacob W. Wilbur, 89 State St., Boston, Mass.—Prices on steam-heating plant for hotel.

Holst (Steam), etc.—H. L. W., care Manufacturers Record, Baltimore, Md.—D. C. D. D. hoist, 50 to 60 H. P., with boiler attached on skids, speed 300 ft. per minute, drums to hold 600 ft. ¾-in. cable; also set of McLanahan-Stone jigs.

Hose (Fire).—City Water & Light Dept., S. R. Blakeman, Supt., Dyersburg, Tenn.—Prices on 500 or 1000 ft. 2½-in. fire hose; appraised by fire underwriters.

Hose (Fire).—White Lane Moss, Mayor, Pineville, Ky.—500 ft. 2½-in. fire hose; samples and prices desired; prices both cash and terms.

Hosiery, etc.—Setton, Friedmann & Co., P. O. B. 84, Cairo, Egypt.—To represent manufacturers of men's cheap half hosiery and other soft goods.

Hosiery, etc.—Ashel A. Tejada G., Commerciant Importador, Cali, Colombia, S. A. To buy: Cravats of all kinds; stockings for children up to 7 years of age; short stockings; corsets; underclothing of stockinette, with long sleeves; blouses for ladies, made of white material, with measures and means of fitting; slippers for men and women; leather slippers (all by the doz.); cravats wanted of silk and of various designs; also narrow tubular ties of silk, cotton and mercerized goods that can be washed.

Ice and Cold-storage Machinery.—See Electrical Machinery, etc.—J. H. Knudsen.

Iron Posts.—Baltimore (Md.) Board of Awards, City Hall.—Bids until April 19 to furnish plain iron gas lamp-posts; specifications obtainable from Wm. Mohr, Supt. of Lamps and Lighting.

I-Beams.—John F. Drew, Melvin, Tex.—Prices on cast I-beams for store and bank building.

Jigs.—See Holst (Electric), etc.

Kettles.—See Paint Mills, etc.—F. W. Steinman.

Knitting Machinery.—W. H. Heffner, Bolivia, N. C.—Data on establishment of small knitting mill, cost, etc., and prices on machinery.

Leather, etc.—Fischer & Berlinger, Moscow, Russia.—Interested with view to agencies, in leathers, colors, chemical products, cotton stockings, woolen and cotton yarns.

Letters and Figures (Metal or Wood).—S. M. Dugger, Banner Elk, N. C. Thick letters and figures of metal or wood for forming letters and figures in concrete.

Levee Construction.—Commrs. Conway County Levee Dist. No. 6, T. R. Wells, Chmn., Morrilton, Ark.—Bids to construct ½ mi. of levee containing about 30,000 cu. yds.; plans and specifications on file with Mr. Wells and Robt. Stallings, Engr., State Bank Bldg., Little Rock, Ark.; bids opened April 11.

Loader.—See Sawmill.—Lenox Sawmill Co.

Locomotive.—Thos. L. Barret, 127 N. Third St., Louisville, Ky.—Second-hand standard locomotive crane; preferably with 50-ft. boom to handle 2 to 3 tons; 1½ or 2-yd. bucket.

Locomotive.—Lewter F. Hobbs, Seaboard National Bank Bldg., Norfolk, Va.—25-ton standard gauge Mogul locomotive.

Locomotive (Geared).—Lenox Sawmill Co., Lenox, Ky.—Price on second-hand geared locomotive; about 30 tons.

Locomotives.—Address R. A. Z., care Manufacturers Record.—Standard gauge geared locomotives; 60 to 70 tons; first class and cheap; give shop number, age and exact condition.

Machine Tools, etc.—International Sav-A-Life Fender Co., E. H. Jones, Prest., Box 476, Parkersburg, W. Va.—To let contract within next 60 days for equipment for automatic automobile fender factory equipment; includes lathes, drill presses, planers, milling machines, grinders, nickel-plating plants, motors and shafting; also wants prices on roofing for 150x40 ft. building.

Machine Tools.—See Welding Machinery, etc.—Americus Machine & Automobile Co.

Machine Tools.—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until April 25 for delivering window glass, lacing leather, shear, punch and angle cutting machine, silica at Navy-yard, Norfolk. Apply for proposals to supply officer, Navy-yard, Norfolk, or to Bureau.

Machine Tools, etc.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on double frame steam hammer, schedule 9514; plate edge planing machine, schedule 9487, and outfit for cutting steel plates and forgings, schedule 9481, delivery Brooklyn, N. Y.; toolroom lathe, schedule 9484; sand-mixing machine, schedule 9500, and banding hydraulic press, schedule 9483, delivery Mare Island, Cal.; machine, shear, punch and angle cutting (combination), schedule 9493, delivery Norfolk.

Metal (Babbitt), Metal Paints, etc.—Acme Limestone Co., J. A. Rigg, Mgr., Alderson, W. Va.—Prices on stock and other metal paints, belting, babbitt metal, elevator material and various fittings for steam power plants and adapted to rock-crushing plant.

Metals.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 1500 lbs. sheet brass, miscellaneous rod and sheet torpedo bronze, 500 lbs. sheet phosphor-bronze, 25,300 lbs. plate steel and 3000 lbs. sheet steel, all schedule 9479, and 200 steel forgings (bevel gears), schedule 9488, delivery Newport, R. I.; 1000 lbs. bar bronze and 33,000 lbs. galvanized sheet steel, schedule 9501, delivery Washington; 800 lbs. half-and-half solder, schedule 9500, delivery Mare Island, Cal.; 5750 lbs. steel plates, schedule 9463, delivery Key West; machinery steel, schedule 9510, various deliveries.

Milling Machine.—American Metallic Packing Co., Walnut and Clark Sts., Lexington, Ky.—Large iron-working universal milling machine complete.

Motors.—See Machine Tools, etc.—International Sav-A-Life Fender Co.

Oil Presses.—See Peanut Machinery.—North American Peanut Co.

Paint Mills, etc.—F. W. Steinman, Box 65, Beaumont, Tex.—Prices on paint mills, copper kettles, iron kettles and storage tanks; for paint and varnish plant to be established.

Paving.—City Commrs., Tulsa, Okla.—Bids to pave sections of Katy and Jefferson

Sts., Wheeling, Xanthus, Victor and Quincy Aves. and various alleys; plans and specifications obtainable from City Auditor.

Paving.—Baltimore (Md.) Board of Awards, City Hall.—Bids until April 19 to pave The Alameda from 1350 ft. northwest of Harford Rd. to 33d St.; 18,000 cu. yds.; contract No. 143-A; specifications obtainable from Commrs. for Opening Streets, City Hall.

Paving.—City of McKinney, Tex., Sims Cameron, City Secy., McKinney, Tex.—Bids until April 25 to construct 26,000 lin. ft. combined curb and gutter, 44,500 sq. yds. asphaltic concrete pavement, etc.; plans and specifications on file with City Secy. and may be obtained from City Engr.; H. A. Finch, Mayor.

Paving.—City of Bartlett, Tex., J. Dodd, City Secy.—Bids until April 20 to construct 11,700 sq. yds. street paving to be paved by city and 15,500 sq. yds. paving and 7600 lin. ft. curb to be paved by property owners; bids on vertical fiber vitrified brick, 1-course concrete, asphaltic concrete, Uvalde rock asphalt; specifications on file with R. T. Smith, City Engr.

Paving.—Greater Petersburg Development Corp., S. W. Zimmer, Pres., Virginia National Bank Bldg., Petersburg, Va.—Bids until April 17 to grade and improve streets, construct sidewalks, curb and gutters, storm-water drainage system, etc.; plans can be seen and copies of specifications, contracts and proposal forms obtained from Mr. Zimmer and J. H. Starkey, Const. Engr., 617-618 Mechanics' Bldg., Petersburg.

Paving.—City of Houston, Tex., Ben Campbell, Mayor.—Bids until April 10 to construct standard combined curb and gutter and 6-ft. sidewalks around North Side Junior playgrounds; specifications and information obtainable from E. E. Sands, City Engr.

Paving.—R. F. Smith, City Secy., Bryan, Tex.—Bids until April 14 to grade, pave, gutter and curb portions of Dallas, Anderson, Washington, Lee, Wheelock, Bryan and other streets; plans and specifications obtainable from A. S. Adams, City Engr.; W. W. Harris, Mayor.

Paving Material.—Office Commrs. Dist. of Columbia, Room 509, Dist. Bldg., Washington, D. C.—Bids until May 1 to furnish and deliver during fiscal year beginning July 1, 1916, and ending June 30, 1917: Asphalt paving blocks, repressed vitrified paving blocks and sewer invert bricks, castings, asphalt paving cement, Portland cement, granite curbing, road oils, tars and bituminous patching material, fuel oil, paving pitch, terra-cotta sewer pipe, sand and gravel and red sewer bricks; specifications and proposal forms obtainable from Purchasing Officer, Room 320, Dist. Bldg.

Peanut Machinery.—North American Peanut Co., Alfred H. Hinds, 1st V-P., Box 361, Wilson, N. C.—Prices on peanut shellers, graders, oil presses, etc., for peanut factory at Weldon, N. C.

Piping.—See Well-drilling Equipment.

Planer.—American Metallic Packing Co., Walnut and Clark Sts., Lexington, Ky.—Large iron-working double-head used planer complete.

Plumbing, etc.—Treasury Dept., Office Jas. A. Wetmore, Supvr. Archt., Washington, D. C.—Bids until May 3 to install ventilating apparatus, plumbing, etc., in United States postoffice, courthouse and customhouse, Richmond, Va.; plans and specifications obtainable from Treasury Dept., Washington, or from office of Custodian, Richmond, at discretion of Supvr. Archt.

Presses (Paper).—Robt. E. Riddle, Burlington, N. C.—Addresses of manufacturers of or dealers in paper presses.

Plumbing Fixtures.—R. S. Webb Co., 108 W. Short St., Lexington, Ky.—Prices on plumbing fixtures for \$7000 residence.

Presses (Baling, Scrap Paper).—J. M. Sternberger, care Elks' Club, 121 Elk Pl., New Orleans, La.—Addresses of manufacturers of baling presses for scrap paper, etc.

Pump.—See Boiler, Engine, etc.—W. S. Payne, Silver King Mining Co.

Rails.—Lewter F. Hobbs, Seaboard National Bank Bldg., Norfolk, Va.—5 mi. 40 or 45-lb. relaying rail.

Rails.—Reliance Equipment Co., Mobile, Ala.—500 tons 40 or 45-lb. relays; 1000 tons 60 or 70-lb. relays; write or wire, stating offer; subject to Hunt's inspection.

Rails.—Leonard Vyne, North Wilkesboro, N. C.—4000 lin. ft. 12 or 16-lb. second-hand rail with spikes.

Road Construction.—Burleson County Commrs., Court, W. M. Hillard, County Judge, Caldwell, Tex.—Opens bids July 10

to construct clay-sand roads; about \$20,000 available; C. H. Malejowsky, Engr.

Road Construction.—Chambers County Commrs., Lafayette, Ala.—Bids until April 24 to construct Lafayette-Waverly Rd. and Cuseta-Lanett Rd.; 28 mi.; include grading, draining, masonry and steel bridges; plans and specifications on file with S. E. Fitch, County Engr.

Road Construction.—Chamber of Commerce, G. P. Coleman, Secy., Petersburg, Va.—Bids until April 14 to construct 9 mi. of road between Petersburg and City Point in Prince George county; alternate bids on one course concrete pavement and bituminous concrete pavement on concrete base; plans and specifications on file at Clerk's office, Prince George, Va.; at office of Secy. Chamber of Commerce, Petersburg, and office State Highway Commission, Richmond.

Road Construction.—Baldwin County Commrs., Bay Minette, Ala.—Bids until May 15 to grade and otherwise improve Trunk Line road from Little River to Gulf of Mexico, about 90 mi., and Forrest Highway from Bay Minette to Perdido, 13 mi., and 7 sections of road from 9 to 20 mi. each; work to begin simultaneously on all sections and to be completed by Jan. 1, 1917; after May 1 plans, profiles and specifications will be on file with J. H. H. Smith, Probate Judge, Bay Minette, and with J. M. Garrett, Coun-

ing roads: Old Court Rd., from end of improved road west 1 mi., with concrete and macadam; Glencoe Rd., from York Rd. to end of improved road, ½ mi., with concrete and macadam; Hollins Ferry Rd., from end of improved road south, ¾ mi., with concrete; Annapolis Ave., from Mollins Ferry Rd. to Annapolis Rd., 3 of a mile, with concrete; plans and specifications on file in Roads Engr.'s Office after April 13.

Road Construction.—Baltimore County Commrs., Chas. J. Fox, Ch. Clerk, Towson, Md.—Bids until April 20 to improve following roads: Falls Rd., from Shawan south, 1 mi., macadam or concrete; White Hall Rd., from Gemmill's Corner to Harford county line, ½ mi., macadam or concrete; Harford Rd., from end of improved road to Harford county line, 1 mi., resurfacing; bids to be made on blank forms, obtainable from State Roads Commission, Garrett Bldg., Baltimore; plans can be seen and forms of specifications and contracts obtained from State Roads Commission.

Road Construction.—Wilcox County Commrs., J. N. Stanford, Chmn., Camden, Ala.—Bids until May 12 to construct hard road of clay and sand or clay and gravel from Lower Peach Tree toward railroad for 4 mi.; profile and specification on file with Blair Hughes, Road Supvr., by May 9.

Road Construction.—McCracken County Court, Paducah, Ky.—Bids until May 2 to

ings bridge, involving construction of 300 lin. ft. masonry sewers, 10-ft. span to 3-ft. 6-in. diam., including transition and special sections and piling, timber and other foundations; proposal forms, specifications and information obtainable from Ch. Clerk, Engr. Dept., Room 427, Dist. Bldg.

Sewer Drain.—State Capitol Commission, A. N. Leecraft, Secy., Oklahoma City, Okla.—Bids until May 6 to construct tile drainage system, with alternate for cast-iron pipe drainage system, for Oklahoma State Capitol; plans and specifications obtainable from State Capitol Commission and Layton & Smith, Architects, 701 Majestic Bldg., Oklahoma City, Okla.

Shafting.—See Machine Tools, etc.—International Sav-A-Life Fender Co.

Shafting.—See Tubing, etc.—Southern Cotton Picker Co.

Smelting Machinery.—J. D. Ross, Asst. Cash. Bank of Randolph, Asheville, N. C.—Names and addresses manufacturers of machinery for smelting or concentrating gold and copper ores.

Steam Power Plant Fittings.—See Metall (Babbitt), Metal Paints, etc.—Acme Limestone Co.

Steel and Bronze.—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until April 25 for delivering bronze and steel at Navy-yard. Apply for proposals.

Steel Reinforcing Bars, etc.—Panama Canal, Earl I. Brown, Gen. Purchasing Officer, Washington, D. C.—Bids until April 27 for steel reinforcing bars, malleable-iron castings, nails, journal jacks, drill sockets, saucers, paper towels, coal-tar pitch, asphaltum, fire clay, ferromanganese, silica wash, silica grit, soda ash, and line; blanks and general information relating to this circular (No. 1032) may be obtained from this office or offices of assistant purchasing agents, 21 State St., New York; 614 Whitney-Central Bldg., New Orleans, and Fort Mason, San Francisco; also from U. S. Engr. offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash.

Steel Stairway, etc.—Joe A. Owens, Supt. Public Buildings and Grounds, Austin, Tex.—Bids to install steel stairway and platform for capitol power-house, Austin; plans and specifications on file with Mr. Owens; bids opened April 12.

Tanks (Storage).—See Paint Mills, etc. F. W. Steilman.

Tar Machinery.—Alcatraz Co., 28th and Main Sts., Richmond, Va.—Data and prices on machinery to manufacture tar.

Tile (Flooring).—See Building Materials, etc.—Americus Automobile Co.

Tile Roof.—R. S. Webb Co., 108 W. Short St., Lexington, Ky.—Prices on tile roof for \$7000 residence.

Toothpick Machinery.—Gardner & Davis, Kings Mountain, N. C.—Data on establishment of toothpick factory and prices on machinery.

Tubing (Brass).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 800 lbs. brass tubing, schedule 9475, delivery Washington.

Tubing, etc.—Southern Cotton Picker Co., G. P. Schlocker, Secy.-Treas., 72 Union St., Memphis, Tenn.—Flexible aluminum tubing; aluminum, iron and brass castings; brass gears; bevel gears and shafting; suction fans; bristle brushes.

Underwear.—See Hosiery, etc.—Asbel A. Tejada G.

Vacuum Cleaner.—R. S. Webb Co., 108 W. Short St., Lexington, Ky.—Prices on vacuum cleaner.

Vault Doors.—Empire Construction Co., Douglas, Ga.—Prices on vault doors for \$4000 fire station and city hall.

Water-wheel.—See Electrical Machinery.—Livingston Light & Power Co.

Water-softening Plant.—Board Bond Trustees, Gustav Muller, Acting Chmn., Jacksonville, Fla.—Bids until April 20 to furnish and install water-softening apparatus, 24,000 gals. daily capacity, for use in connection with city electric-light plant; bidders to furnish specifications and guarantee cost of operation.

Water Filtration Plant.—Undersigned or City Council, Columbia, S. C.—Bids until May 2 to construct high velocity rapid sand water filtration plant, with building, piping, filter appurtenances, etc.; copies of plans and specifications obtainable from under-

FOR THE BENEFIT OF

ENGINEERS ARCHITECTS MACHINERY DEALERS
CONTRACTORS BANKERS MANUFACTURERS and OTHERS

Who find it profitable to follow up daily the industrial, commercial, railroad and financial development of the South and Southwest as published in this Construction Department,

THE DAILY BULLETIN

is issued every business day in the year

The construction news as published in the Daily Bulletin is invaluable to all business people who want to keep in daily touch with the organization of business enterprises of all kinds throughout the whole South. Unlimited possibilities for the creation of business, for securing contract work, for the sale of machinery and supplies of all kinds, for bond buyers and others, are to be found through a close following up of the news in the Daily Bulletin.

The subscription price is \$25.00 a year. Are you a subscriber to it, or an advertiser in it? If not, you are missing an opportunity for profitable business.

The Daily Bulletin is an exceptionally desirable advertising medium.

ADDRESS: MANUFACTURERS RECORD, BALTIMORE, MD.

ty Engr. at Bay Minette, and 120 Catoma St., Montgomery, Ala.

Road Construction.—De Soto County Commrs., Arcadia, Fla.—Bids until April 15 to construct 20,000 sq. yds. asphalt pavement; plans and specifications on file with A. L. Durance, County Clerk; A. Jaudon Engineering Co., Engr., Bartow, Fla.

Road Construction.—Jones County Highway Commrs., Dist. No. 2, S. W. Lindsey, Chmn., Laurel, Miss.—Bids until May 4 to construct 23.62 mi. highway; Laurel north to Jones county line at Mossville, 9.16 mi.; Laurel south to Dist. line, 4.67 mi.; on Hebron Rd., 7.67 mi.; on Sandersville Rd., 2.12 mi.; plans and specifications on file office of Chancery Clerk.

Road Construction.—Highway Dept., Board of State Engrs., Room 104, New Orleans Court Bldg., New Orleans, La.—Bids until April 21 to construct following: Winnfield-Jonesboro, Winnfield-Colefax Highway, Winn Parish, 10.5 mi., earth; Lafayette-New Iberia Highway, Lafayette Parish, 5 mi., gravel; Section 3, Arkansas Highway, Caddo Parish, 5.4 mi., gravel and stone; 1 concrete and 3 steel bridges, Caddo Parish; information as to location, character of work, etc., obtainable from W. E. Atkinson, State Highway Engr.

Road Construction.—Baltimore County Commrs., Chas. J. Fox, Ch. Clerk, Towson, Md.—Bids until April 30 to improve follow-

ing Clark line road; plans and specifications on file with Gus G. Singleton, County Clerk.

Roofing.—See Machine Tools, etc.—International Sav-A-Life Fender Co.

Sawmill.—Lenox Sawmill Co., Lenox, Ky. Prices on second-hand band mill outfit, including geared locomotive of about 30 tons, flat cars and a loader.

Saw Table.—John F. Drew, Melvin, Tex. Prices on saw table.

Scales (Hay).—See Farming Machinery. Interstate Land & Investment Co.

Seawall and Fill.—St. Lucie County Commrs., J. E. Fultz, Clerk, Fort Pierce, Fla.—Bids May 2 to construct seawall and fill along Indian River front; seawall to be 800 ft. long and extend about 400 ft. from shore; specifications obtainable from Miller Hallows, Engr., Fort Pierce.

Sewer Construction.—City of Austin, Tex., P. W. Powell, Supt. of Streets and Public Improvements, Austin, Tex.—Bids until April 22 to construct storm sewer to carry water of Little Shoal Creek; work divided into 3 contracts, one to cost \$35,000 and two \$5000 each; plans and specifications on file with City Engr.

Sewer Construction.—Commrs. Dist. of Columbia, Washington, D. C.—Bids until April 17 to construct outlet trunk sewers between Pennsylvania R. R. bridge and Ben-

igned for \$10; John McNeal, City Engr.; E. C. Keenan, Council Supt., Dept. of Engineering.

Water-works (Isolated).—See Electrical Machinery, etc.—J. H. Knudsen.

Water-works.—H. W. B. Mullins, Mayor, Madison, W. Va.—Bids until June 1 to construct water system; plans and specifications furnished on application for bid.

Well-drilling Equipment.—Lincoln Valley Oil & Gas Co., Walter, Okla.—Prices on well-drilling rig and tools for drilling 500 ft.; also casing.

Welding Machinery, etc.—American Machine & Automobile Co., Crowley, La.—Open bids in June on welding and cutting outfit, reamer (for Fords) and good boring bar.

Woodworking Machinery.—W. B. Cooke, Louisville, N. C.—Data on manufacture of wood floor and prices on machinery.

Yarns (Woolen and Cotton).—See Leather, etc.—Fischer & Berlinger.

Zinc Carbonate and Sulphide.—Picher Lead Co., Joplin, Mo.—Western carbonates and sulphides of zinc.

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Fort Payne.—Work under the second trucking contract, awarded to M. M. Elkan of Macon, Ga., on the Alabama Great Southern R. R. between Fort Payne and Flanders, Ala., 21½ mi., will consist of paralleling the present line with a few slight revisions. The yardage is small. W. H. Wells, Washington, D. C., is Acting Ch. Engr. of Constr.

Fla., Tampa.—Construction of an electric railway from Tampa via Plant City to Lakeland, Fla., about 33 mi., is proposed by E. J. Rindorf, Atty.-at-Law, and associates of Tampa, including F. M. Williams, Prest. Tampa Real Estate Board; Frank L. Cooper, Secy.; F. W. Cole and P. B. Cole. Franchises are now being sought and construction contract is conditionally awarded. A company will be formed with from \$350,000 to \$1,000,000 stock. Bonds for \$750,000 or more will be issued. Franchise at Plant City is reported granted.

Ga., Byromville.—Americus, Hawkinsville & Eastern Railway, J. S. Morton of Byromville, Gen. Mgr., is reported to have practically completed a 3300-ft. trestle over Flint River on its 18-mi. extension to Americus.

Ky., Shelbyville.—Construction of an electric railway from Shelbyville to Frankfort, Ky., about 30 mi., is contemplated by J. W. Gutzler and associates of Shelbyville, Ky., and W. W. Lindsey of Detroit, Mich.

Ky., Lenox.—Lenox Sawmill Co. will build standard-gauge railroad from Redwine to Lenox, about 4 mi., including a 400-ft. tunnel. Grade completed. Prest., W. S. Whitling, Elizabethtown, Tenn.; V.-P., W. D. Johnston, Pittsburgh, Pa.; Secy., M. E. Miller; Treas., C. K. Heywood. Company's address, Lenox, Ky.

Miss., De Kalb.—The De Kalb & Eastern, or Snoddy Valley, R. R. has been bought by F. J. Hughes of Electric Mills, Miss. It is announced, in connection with several residents of Meridian, Miss. Line is 12 mi. long. An extension is proposed.

Mo., Emma.—The Emma Creamery Co. says that the press report to the effect that it would build an electric railway is erroneous; the proposed work is an electric transmission line from the lighting plant at Sweet Springs to Emma.

Okla., McAlester.—Choctaw Ry. & Light- ing Co. property has been sold by order of the United States Court for \$450,000, the purchaser being C. N. Mason of New York for the bondholders. Improvements are to be made. B. R. Stephens is Secy.

Okla., Tulsa.—Sand Springs Ry. Co., Chas. Page, Prest., will, it is stated, build second track.

Tenn., Doyle.—Nashville, Chattanooga & St. Louis Railway Co. is surveying for a branch from a point near Doyle up Cane Creek and Dry Fork Gulf into Van Buren county through lands of the Dry Fork Coal & Timber Corp., headquarters of which are at Charleston, S. C. The proposed railroad is expected to develop rich coal and lumber territory. It will be about 13 mi. long via Spencer and Giffentine. H. McDonald, Nashville, Tenn., is Ch. Engr.

Tex., Orange.—W. D. Haden & Co., Galveston, have been awarded the contract for the second section of the Gulf, Sabine & Red River Railway, owned by the Litcher & Moore Lumber Co. of Orange. Contract covers 16 mi., making 28 mi. of extension now under contract, Cook & Richards of Crockett, Tex., having 12 mi.

Tex., San Antonio.—Survey has been made over 40 mi. of the right of way for the proposed San Antonio & Northwestern Ry. to a point several miles beyond Medina Dam. H. H. Fielder is Ch. Engr.

Va., Altavista.—Virginian Ry. is expected to open bids in a few days for construction of a line at Altavista to connect with the Southern Ry. H. Fernstrom, Norfolk, Va., is Ch. Engr.

Va., Petersburg.—The Lakemont Amusement Corporation is reported to have let contract to the Vaughan Construction Co. of Roanoke, Va., to build the Lakemont Ry. C. A. Owens is Mgr.

Va., Williamsburg.—Construction is reported begun upon the 4-mi. spur from the Chesapeake & Ohio Ry. to the site of the new dynamite plant of E. du Pont de Nemours & Co. on the York River near Yorktown. Simon Curtis of Lee Hall has a grading contract.

Va., Williamsburg.—Manhattan, Toano & Norfolk Ry. Co., authorized capital \$100,000, will build from Norfolk via Newport News and Manhattan (on York River) to Toano, Va., and Richmond, about 116 mi. Francis H. Sprague of Richmond is V.-P. and Gen.

Combine Office and Warehouse.

On April 1 the office and warehouse of The S. Keighley M. C. & Mfg. Co. and The Keighley Mfg. Co. were combined at 124 3d Ave., Pittsburgh. The office was formerly in the Keystone Bldg., of the same city.

Geological Investigation Conducted.

Myron L. Fuller, Frank A. Herald and Ralph W. Richards of the petroleum division of The Associated Geological Engineers, 120 Broadway, New York, are conducting a geological investigation in northern Oklahoma and Southern Kansas.

Architect Wants Samples.

The office of P. J. Berckmans Co., landscape architect, Augusta, Ga., suffered almost entire destruction by fire. The company solicits general architectural and landscape architectural material catalogue and samples at its new address, 207 Terminal Bldg.

Rebuilding Drykilns.

The Florida Sawmill Co.'s dry kilns at Paxton, Fla., recently destroyed by fire, are being rebuilt by the L. Moore Dry Kiln Co., Jacksonville, Fla., in rush order. It is expected that two kilns will be in operation by April 15 and the remaining by the 24th, which is about 30 days after the date of the fire.

Granite Company Opens Operations.

Paving blocks, curb, monumental and building stock will be produced and dealt in by the Salisbury (N. C.) Granite Corporation, from its 200 acres of high-grade granite quarry land. P. A. Wallenborn, president, gained a thorough knowledge of the business as general superintendent of the Harris Granite Co., Salisbury.

Low Prices Maintained.

Announcement is sent out by The Emerson Pump & Valve Co., Alexandria, Va., that in spite of higher prices generally throughout the country it is prepared to fill orders for any of its pumps at the old prices and discounts, and give prompt shipment. For even quicker service than can be obtained by immediate factory shipments consignments of pumps are held at various convenient points.

Large Lumber Shipment Sent Out of Live Oak, Fla.

On the 15th of March the Standard Lumber Co., Live Oak, Fla., had, loaded ready for shipment, 59 cars of long leaf pine lumber, which was taken out, destined for Pinners Point, Va., for distribution to other points further north and east, in a special 39-car through freight of the Atlantic Coast Line and 20 cars of the next through freight over that line. This company ships pine and cypress in mixed cars as well as in large quantities, and states that it is doing a thriving business, as evidence by the shipment just cited.

Mgr., and Herbert A. Claiborne of Saville & Claiborne, Engrs., of the same city, is Ch. Engr. Plans are being prepared and work will be rushed. All rights of way secured. The engineers will shortly announce date for receiving construction bids. Other officers are Dr. H. U. Stephenson, Prest., and A. W. Jennings, Treas., both of Toano, and A. B. Smith, Secy.

W. Va., Mullens.—At a recent meeting of coal operators at Huntington, W. Va., H. W. Walker, representing the Virginian Railway, is reported to have said that survey for the contemplated extension from Mullens down the valley of the Guyandotte had been made, and the coal men are also said to have expressed readiness to guarantee ample tonnage for the proposed line from Mullens via Gilbert and Man to Logan, W. Va., 60 mi. or more. H. Fernstrom, Norfolk, Va., is Ch. Engr.

STREET RAILWAYS

Fla., Miami.—Miami Traction Co. contemplates an extension 1 mi. long. B. B. Tatum is Prest.

Ga., Atlanta.—Georgia Railway & Power Co. has asked franchise to build an extension of 2½ mi. from Moreland and Ponce de Leon Aves. to Emory University. It is also contemplated to build another extension from the end of the Brookhaven line to Oglethorpe University, about 1 mi. P. S. Arkwright is Prest.

Ga., Blue Ridge.—H. P. Mulkey is interested in a plan to build an electric street railway from Blue Ridge to Copper Hill, several miles.

INDUSTRIAL NEWS OF INTEREST

Link-Belt Representative Established.

North and South Carolina needs in silent power transmission will be looked after for the Link-Belt Co., Chicago, Ill., by J. S. Cothran, 200 Commercial Bank Bldg., Charlotte, N. C. Mr. Cothran, the newest of the company's representatives, is distributing Catalogue 125, the first price-list published of Link-Belt, and he is ready to discuss power-transmission problems.

Contracts for Sewage Disposals.

Sanitary sewage-disposal systems, installed by the Sanitary Engineering Co., Charlotte, N. C., have been contracted for by the Mayo Mills Co., Mayodan, N. C., for 175 plants for operatives' homes; by the Virginia Cotton Mills, Swepsonville, N. C., for residential plants for the entire mill village of about 118 families; by the Cannon Manufacturing Co., Kannapolis, N. C., for 800 residential plants at Kannapolis and the Cabarrus mill village at Concord, N. C.

Furnishes Current for Resort.

Contract has been let the Georgia-Carolina Utilities Co., Savannah, Ga., for a power plant to furnish current for the light and power to the remodeled Central of Georgia Railway Co.'s pavilion on Tybee Island, where the railroad company is making extensive improvements. The plant consists of a 15 K. W. D. C. 125-volt generator, a 400-gallon-per-hour suction pump, both driven by a 25 H. P. Fox special electric oil engine. Two similar plants have done service on the island for two years.

Baltimore Students Utilize Knowledge.

Considerable saving is being made the city of Baltimore by work of the students of the Polytechnic Institute in making 18 lathes of the latest design for use in the school shops. The drawings were furnished by a large machine company, the patterns made last year by third-year boys and castings

[Continued on Page 80.]

FINANCIAL NEWS

FINANCIAL CORPORATIONS

Ala., Anniston.—People's Bank has begun business; James Keith, Prest.; O. M. Alexander, V.-P., and E. H. Hawkins, Cash.

Ala., Birmingham.—The Sun Underwriting Co. has filed articles of incorporation; capital \$25,000; J. H. Lynch, Prest.; M. D. Collins, V.-P.; G. L. Bryant, Secy. and Treas.

Fla., Jacksonville.—Co-operative Loan Assn., capital \$300,000, has applied for charter. Business is to begin May 2; incorporators, W. A. McMillan, C. C. Jones, Paul E. Twitty, Giles J. Patterson, J. B. Yerkes, Alva E. Lambertson, Fred W. Kettle, Chas.

L. Jennings and Edw. G. Trenholm. J. B. Yerkes will be Prest.; C. C. Jones, V.-P., and Paul E. Twitty, Secy. and Treas.

Ky., Stanford.—Lincoln Trust Co. Incptd., capital \$25,000; incorporators and directors, Geo. W. Carter, W. M. Bright, W. H. Cummins, W. D. Edmiston, S. J. Embry, Jr., L. Gooch, R. L. Kubbe and others; officers not yet elected. Business will begin as soon as capital is paid in.

Md., Baltimore.—The Continental Company, to be located in the Continental Trust Co.'s Bldg., will have an authorized capital of \$500,000 cumulative preferred stock and \$100,000 common stock. Directors will be Gilbert B. Bogart, New York; Walter S. Brinkmann, W. J. Casey and Sidney Lansburgh, Baltimore, and John W. Dickey, Augusta, Ga. Officers: Gilbert B. Bogart, Prest.; Walter S. Brinkmann, V.-P., and Geo. G. Thomas, Secy. and Treas. The company's business will consist of handling Government, municipal, railroad and public utility bonds.

Md., Easton.—Firm of Walker & Co. is incorporated to do a real estate, insurance and advertising business.

Md., Tilghman.—The Tilghman Bank, which succeeds the New Building and Loan Association, has begun business; capital \$12,000. Organizers: H. R. Howeth, S. Taylor Harrison, S. Kennedy Wilson, J. Frank Fairbank, J. Thos. Faulkner, W. R. Rowleson, R. S. Dodson, Geo. A. Seymore, N. E. Clark, Wm. Reddie, Jos. B. Seth and M. T. Johnson.

Mo., St. Louis.—Lafayette-South Side Bank of St. Louis, which absorbed the Lafayette and South Side banks, is chartered. Among the stockholders are Charles F. Moore, A. C. F. Meyer and August A. Busch.

Okla., Hollis.—State National Bank of Hollis, capital \$25,000, has been purchased by the City National Bank of Hollis.

S. C., Aynor.—Bank of Aynor is chartered; capital \$10,000. D. A. Spivey, Prest.; George J. Holliday, V.-P., and W. P. Lewis, Cash.

S. C., Charleston.—City Bank & Trust Co., capital \$25,000, surplus \$50,000, has begun business. Directors: T. T. Hyde, J. A. Storer, Courtenay Olney, Joseph F. Riley, Joseph Helper and others.

S. C., Columbia.—Florence County Farmers' Mutual Fire Insurance Co. has been granted a commission. Petitioners: J. W. McCown, E. M. Matthews, L. A. McCall, Jr., F. L. Howard, A. B. Hamer, R. E. Currin, J. E. Pettigrew, J. S. McKenize and others.

S. C., Spartanburg.—Plans are being made to organize a Morris plan bank. Among those interested are W. W. Lancaster, Dr. J. T. Montgomery, A. M. Law, C. C. Kirby, J. A. Jenkins and H. L. Bomar. The headquarters of the bank are to be in Spartanburg with branches in Sta. Greenville, Anderson and Charleston.

S. C., Sumter.—The Farmers' Mutual Protection Association of Sumter, Clarendon and Lee counties of South Carolina is commissioned. W. F. Shaw, Prest.; Sumter Trust Co., Agent.

Tenn., Smithville.—People's Bank & Trust Co. is Incptd. to succeed the People's Bank; capital \$30,000; surplus \$1000; W. H. Davis, Prest., and F. M. Love, Cash. Business began April 1.

Tex., Brenham.—Farmers' National Bank of Brenham, which is to begin business about June 1, has elected the following officers: Charles L. Wilkins, Prest.; E. W. Reichardt, 1st V.-P.; H. L. Luedemann, 2d V.-P., and O. E. Baumgart, Cash.

Tex., Hansford.—First National Bank has made application for charter; capital \$25,000. M. B. Wright is Prest. and Frank L. Carson Cash.

Va., Danville.—Mechanics' Loan & Savings Co. is chartered; capital \$50,000; C. G. Holland, Prest.; E. B. Meade, Secy.-Treas.

Va., Hopewell.—American-Russian Banking Corp. is chartered; capital \$50,000; E. L. Potter, Prest.; J. Walchuk, V.-P.; P. Tesluk, Secy. and Treas.

Va., Independence.—Grayson County National Bank is chartered; capital \$25,000. This is a conversion of the Bank of Grayson.

Va., Petersburg.—Banking, Trust & Mortgage Co. is being organized by the Virginia Finance Corporation; capital \$500,000. The company will have offices in Petersburg and Hopewell. The stockholders are G. C. Wright, H. S. Seward, John W. Long, N. B. Davidson, Farmville; R. W. Kime, Salem, and others.

NEW SECURITIES

Ala., Birmingham.—June 5 election is to be held to vote on \$500,000 municipal light

Merchants-Mechanics National Bank

South and Water Sts., BALTIMORE, MD.
DOUGLAS H. THOMAS, President.
JNO. B. RAMSAY, V.-P. and Chm. Bd. of Dir.
JOHN B. H. DUNN, Cashier.
Capital \$2,000,000. Deposits \$21,670,000.
Surplus and Profits \$2,175,000.
Accounts of Banks, Bankers, Corporations and Individuals solicited.
We invite correspondence.

The National Exchange Bank OF BALTIMORE, MD.

Hopkins Place, German and Liberty Sts.
Capital, \$1,500,000.
March 30, 1915, Surplus and Profits, \$350,000.00.
OFFICERS.
WALDO NEWCOMER, President.
SUMNERFIELD BALDWIN, Vice-Pres.
R. VINTON LANSDALE, Cashier.
C. G. MORGAN, Asst. Cashier.
Accounts of Mercantile Firms, Corporations, Banks, Bankers and Individuals invited.

We Buy Bonds

City, County, School and Road, from Municipalities and Contractors.
WRITE
THE PROVIDENT SAVINGS BANK & TRUST CO.
CINCINNATI OHIO

Municipal Bonds BOUGHT

from Contractors and Municipalities
STACY & BRAUN
Second National Bank Bldg., TOLEDO, O.

First National Bank

RICHMOND, VIRGINIA
Capital and Surplus - - - - - \$3,000,000
JNO. E. PURCELL, President.
JNO. M. MILLER, JR., Vice-Pres.
W. M. ADDISON, Cashier.

WE BUY BONDS CITY, COUNTY, SCHOOL DISTRICT

CORRESPONDENCE INVITED FROM CONTRACTORS AND OFFICIALS
SIDNEY SPITZER & CO., Spitzer Building, TOLEDO, OHIO
NEW YORK CHICAGO CINCINNATI

JOHN NUVEEN & CO.

First National Bank Building, CHICAGO
We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.
Write us if you have bonds for sale.

Maryland Trust Company

BALTIMORE
Capital \$1,000,000
TRANSACTS A GENERAL TRUST AND BANKING BUSINESS
Correspondence and interviews invited

Practical Suggestions for Investors

who are uncertain as to how they should use their available funds will be given those who call at our office or communicate with us in writing.

To illustrate the diversified character of the securities we handle we invite requests for our Weekly Offering Sheet No. AG-174 which contains a substantial list of high grade securities.

A. B. Leach & Co.

Investment Securities
149 Broadway, New York
Chicago Philadelphia Buffalo
Boston Baltimore London

Delaware Trust Company

WILMINGTON, DELAWARE
INCORPORATING under broad, liberal, safe and stable Delaware laws. A fully equipped department for proper organization and registration of corporations.
BANKING AND TRUST department gives special attention to out-of-town customers' accounts.
TITLE DEPARTMENT examines and guarantees title to realty throughout Delaware.
REALTY DEPARTMENT has sites for manufacturing industries. Modern methods of management of property.
J. ERNEST SMITH, Pres. and Gen. Counsel.
WM. G. TAYLOR, Vice-Pres. and Treasurer.
HARRY W. DAVIS, Vice-Pres. and Secretary.
W. W. POSEY, 2d Title and Real Estate Officer.

The First National Bank OF KEY WEST, FLA.

United States Depository and Disbursing Agent.
Capital \$100,000
Surplus and Undivided Profits 40,000
A general banking business transacted. Special attention given to collections.

GUNTER & SAWYERS

BUY School, Electric Light, Water, Sewer, Road, Levee and Drainage Bonds.
LITTLE ROCK, ARK JACKSONVILLE, FLA.

THE TILLOTSON & WOLCOTT CO.

CLEVELAND, OHIO
BUYERS OF COUNTY CITY SCHOOL AND DRAINAGE BONDS
Correspondence Solicited

POWELL, GARARD & CO.

39 S. La Salle Street
CHICAGO, ILL.
We Buy Southern Municipal Bonds (County, City, School, Road and Drainage District).

WE BUY Municipal Bonds

ISSUED BY
Counties, Cities, School Districts and Road Districts.
WRITE US
CUMMINGS, PRUDDEN & CO.
Second National Bank Building
TOLEDO, OHIO

BANK STATIONERY

This month we are making a special run on

BANK ENVELOPES

Send for prices.

Young & Selden Co.

BANK STATIONERS BALTIMORE, MD.
Lithographing, Printing, Envelopes
Blank Book Makers, Book Binding
Letter Heads, Office Supplies
Steel Die Work

ing plant and \$2,000,000 school bonds. Address The Mayor.

Ala., Jacksonville.—Ordinance is to be introduced in the City Council authorizing issue of \$10,000 school bonds. Address School Board.

Fla., Arcadia.—Steps are being taken to call an election to vote on \$100,000 street, water, sewer and city hall bonds. Address The Mayor.

Fla., Bushnell.—Bids will be received until noon May 8 for \$60,000 6 per cent. 10-30-year bonds Special Road and Bridge Dist. No. 2 (Wildwood and Coleman). Sumter county bonds. W. M. Potter is Clk. Circuit Court and Clk. Bd. County Commrs. Further particulars will be found in the advertising columns.

Fla., De Land.—Election is to be called to vote on \$60,000 school-building bonds. Address Volusia County Bd. of Public Instruction at De Land.

Fla., Gainesville.—The \$21,000 5 per cent. paving and sewer bonds for which bids will be received until 3 P. M. Apr. 29 are dated Jan. 1, 1916, maturing Jan. 1, 1931; denomination \$1000. I. E. Webster is Secy. Board Public Works.

Fla., Miami.—Election is to be held in Dade county May 9 to vote on \$30,000 bridge, \$25,000 road and \$25,000 county jail bonds. Address County Commrs. S. A. Belcher, Chrmn.

Fla., Sanford.—Bids received until 3 P. M. April 13 by D. A. Thrasher, Supt. Public Instruction Seminole County, for \$75,000 school bonds; interest not to exceed 6 per cent.

Ga., Lavonia.—Election is to be ordered to vote on water-works and school-improvement bonds. Address The Mayor.

Ga., Leesburg.—\$25,000 road, \$5000 bridge and \$50,000 courthouse 5 per cent. \$100 Lee county bonds are voted. E. J. Stocks is Chairman.

Ga., Macon.—Election will probably be held in 60 days to vote on \$100,000 additional hospital bonds. Address The Mayor.

Ga., Metter.—\$15,000 5 per cent. 30-year \$500 denomination light and school bonds were voted Mch. 30; dated Apr. 1, 1916; maturity 1946; bids for same are now being received. Address Geo. L. Williams. M. E. Everett is Clerk City Council. (Previously mentioned.)

Ga., Rockmart.—Rockmart School Dist. is making plans to vote on between \$20,000 and \$30,000 school bonds. Address M. P. Lane, Secy.-Treas. Board of Trustees.

Ky., Brooksville.—Election is to be held June 17 for \$30,000 Bracken county pike bonds. W. H. Gibson is County Judge.

Ky., Carrollton.—\$30,000 of an issue of \$50,000 4½ per cent \$500 and \$1000 denomination Carroll count road and bridge bonds have been purchased at \$250 premium and accrued interest by James C. Wilson & Co., Louisville, Ky.

Ky., Edmonton.—\$30,000 5 per cent. 5-30-year \$500 and \$1000 denomination bonds have been voted by Metcalfe county. Bids for \$20,000 of the issue will be opened Apr. 24. Dated June 1, 1916. C. H. Forrest is County Judge; J. W. Galloway, County Clerk. (Previously noted.)

Ky., Elkton.—Election is to be held in Todd county to vote on \$190,000 road-improvement bonds. Address County Commrs.

Ky., Elkton.—Election is to be held in Todd county June 10 to vote on \$190,000 road bonds. Address County Commrs.

Ky., Glasgow.—Election to vote on Glasgow county road bonds will be held May 20. G. M. Bohannon is County Judge.

Ky., Grayson.—\$100,000 5 per cent. Carter county road bonds have been purchased at \$550 premium by J. C. Mayer & Co., Cincinnati. \$60,000 Carter county refunding bonds have also been purchased by the same firm at \$500 premium.

Ky., Hopkinsville.—Bids will be opened Apr. 20 for \$400,000 4½ per cent. 16-year \$1000 denomination Christian county road and bridge bonds. Ira D. Smith is County Atty.

Ky., Jamestown.—\$40,000 5 per cent. \$100, \$500 and \$1000 denomination Russel county road and bridge bonds have been purchased

at \$40,400 by Rudolph Kleybolte Co., Cincinnati, O. Bonds are dated Apr. 1, 1916, and mature 1921 to 1941, inclusive. R. E. Lloyd is Commr.

Ky., LaGrange.—Bids will be received until 10 A. M. April 15 for \$35,000 5 per cent. Oldham county road and bridge bonds; dated May 1, 1916; denominations \$500 and \$1000; W. D. Pinkston is Clerk County Fiscal Court.

La., Leesville.—\$150,000 Vernon parish road bonds have been purchased by C. A. Reeves, representing the Canal Bank & Trust Co., New Orleans.

Ky., Lexington.—Bids received until 10 A. M. Apr. 13 for \$130,64 6 per cent. street improvement bonds. James C. Rogers is Mayor.

Ky., Lexington.—\$3180.55 street bonds have been purchased at a premium by Frank G. Ott, Commr. of Finance, for the city's sinking fund.

Ky., Owensboro.—Bids will be received until noon Apr. 21 for \$600,000 4½ per cent. \$500 year \$500 denomination Daviess county road and bridge bonds. K. L. Lancaster is County Judge Daviess County Fiscal Court, Owensboro. Further particulars will be found in the advertising columns.

Ky., Pineville.—\$300,000 4½ per cent. Felski county road bonds have been purchased at \$3655 premium by the Fifth-Third National Bank of Cincinnati.

Ky., Whitesburg.—Election is to be held May 6 to vote on \$200,000 5 per cent. 30-year Letcher county road and bridge bonds; denominations \$100 to \$500. H. T. Day is County Judge. (Previously noted.)

Ky., Winchester.—\$12,580 6 per cent. 14½-year \$258 and \$500 denomination street-improvement bonds have been sold at par and accrued interest to Hickel Asphalt Paving Co., Louisville, Ky. S. B. Tracy is City Clk.

La., Alexandria.—Election is to be held May 2 to vote on \$30,000 5 per cent. 30-year bonds Pineville School Dist. No. 23 and \$20,000 Alexandria School Dist. No. 1 5 per cent. 15-year bonds Rapides parish. Jonas Rosenthal is Pres. Parish Board of School Directors.

La., Covington.—Election is to be held May 16 to vote on \$60,000 water-works bonds. Address The Mayor.

La., Leesville.—\$150,000 Vernon parish road bonds have been purchased by C. A. Reeves, representing the Canal Bank & Trust Co., New Orleans.

Md., Brunswick.—Election will probably be held in Aug. to vote on water-works bonds, amount not to exceed \$75,000. Eugene Harrison is Mayor.

Md., Grantsville.—\$15,000 5 per cent. \$500 denomination Grantsville Borough bonds are voted. H. C. Bonig is Mayor.

Md., Cumberland.—Bill has passed the Legislature authorizing Allegany county to issue road bonds. Address County Commrs.

Miss., Brookhaven.—\$100,000 Lincoln county road bonds have been voted and will probably be offered in May. Address Board Supervisors.

Miss., Columbus.—\$83,000 Columbus Dist. Lowndes county, road bonds have been sold. B. A. Lincoln is County Clerk.

Miss., Columbus.—\$50,000 5 per cent. road bonds Lowndes County Suprns. Dist. No. 3 have been purchased by the Hibernia Bank & Trust Co. and the Merchants & Farmers' Bank of Columbus, Miss.

Miss., Coldwater.—\$15,000 5 per cent. \$1000 denomination school-building bonds are voted and bids for same will be opened May 2. D. Wooten is Mayor.

Miss., Ellisville.—\$125,000 6 per cent. 30-year bonds Second Supervisors' Dist. Jones county, will be offered in May. Address Board of Supervisors.

Miss., Greenville.—Election is to be held in Washington county April 24 to vote on \$500,000 road bonds. Address Board of Supervisors.

Miss., Greenwood.—\$10,000 of bonds for King's Daughters Hospital will probably be issued by Leflore county. Address Board of Supervisors.

Miss., Greenwood.—\$10,000 of bonds for King's Daughters Hospital will probably be issued by city. Address The Mayor.

Miss., Hazlehurst.—\$5000 6 per cent. Martinsville Consolidated School Dist., Copiah county, school bonds have been purchased at \$187 premium by the Bank of Hazlehurst.

Miss., Laurel.—City will issue \$15,000 30-year county fair bonds, also \$10,000 street-improvement bonds. Address G. T. McCullum, Mayor.

Miss., McComb.—City proposes to issue

W.S. BARSTOW & CO.
INCORPORATED
CONSULTING and
CONSTRUCTION ENGINEERS
PUBLIC SERVICE PROPERTIES
FINANCED and MANAGED
50 Pine Street New York

\$80,000
dress T
Miss.
in Neab
agricult
Board
Mo. C
Apr. 18
edness b
Mo. S
School
is Secy.
Mo. M
500 de
building
\$1,865 i
Louis.
Mo. M
voted M
dress R.
Mo. L
Claryvi
has vote
Commrs.
N. C.
\$500 sch
ation.
N. C.
\$100 de
ship, Ca
purchase
C. H. Co
N. C.
called to
of Educ
N. C.
Rockfor
to vote
\$100 den
is Clerk
county
N. C.
to vote
is Chrm
N. C.
5 (bids
\$5,000 25
and sew
bonds; d
Mayor.
N. C.
May 23
Address
N. C.
year bon
nomina
Henders
lenburg
N. C.
Brinkley
have be
\$108,455
B
W
Corre
Ca
W.
W
THE
W
An
18 E

\$80,000 sewer and \$30,000 school bonds. Address The Mayor.

Miss., Philadelphia.—Election is to be held in Neshoba county Apr. 22 to vote on \$30,000 agricultural high-school bonds. Address Board Supervisors.

Mo., Granite City.—Election is to be held Apr. 18 to vote on \$40,000 outstanding indebtedness bonds. Address The Mayor.

Mo., Ironton.—\$15,000 5 per cent. bonds School Dist. No. 25 are voted. G. W. Farrar is Secy. Board of Education.

Mo., Marshfield.—\$11,500 5 per cent. 20-year \$50 denomination school district school-building bonds have been purchased at \$1.85 by William R. Compton & Co., St. Louis.

Mo., Mt. Leonard.—\$10,000 road bonds were voted Mch. 18 and are now for sale. Address R. L. Baighwell.

Mo., Perryville.—Special Road Dist. 7 (Claryville and Belgique), Perry county, has voted \$1500 road bonds. Address County Commrs.

N. C., Asheville.—Fairview School Dist., Buncombe county, is taking steps to issue \$500 school bonds. Address Board of Education.

N. C., Beaufort.—\$5000 6 per cent. 42-year \$1000 denomination Hunting Quarters township, Carteret county, road bonds have been purchased at \$101 and accrued interest by C. H. Coffin, Chicago.

N. C., Cornelius.—Election is soon to be called to vote on school bonds. Address Bd. of Education.

N. C., Dodson.—Election is to be held in Rockford township, Surry county, May 2 to vote on \$20,000 6 per cent. \$100, \$500 and \$1000 denomination road bonds. S. G. Brim is Clerk and J. B. Sparger, Chrmn. Board County Commrs.

N. C., Greenville.—Election is to be called to vote on \$50,000 school bonds. P. T. Hayne is Chrmn. Board City School Trustees.

N. C., Hickory.—Bids will be opened Apr. 5 (bids to be received before Apr. 22) for \$5,000 25-year school and \$10,000 30-year water and sewer 5 per cent. \$1000 denomination bonds; dated May 1, 1916. J. W. Shufford is Mayor. Address John W. Ballew, City Mgr.

N. C., High Point.—Election is to be held May 23 to vote on street-improvement bonds. Address The Mayor.

N. C., Huntersville.—\$15,000 6 per cent. 20-year bonds School Dist. No. 1 are voted; denomination to suit purchaser. J. Arthur Henderson is Chrmn. Board Education Mecklenburg County.

N. C., Raleigh.—\$100,000 Littleton and Brinkleyville townships, Wake county, bonds have been sold to a Toledo (O.) firm for \$108,425.

N. C., Wallace.—\$12,000 Wallace School Dist. bonds are voted. Address Board of Trustees.

Okla., Alva.—Board of Education has decided to drop for the present matter of voting high-school bonds.

Okla., Ardmore.—\$40,000 school-building bonds are voted. Address School Board.

Okla., Bartlesville.—\$100,000 school bonds defeated. Another election will probably be called. T. E. Thurman is Clk. Bd. of Education.

Okla., Chickasha.—\$10,000 fire-department bonds are voted. Address The Mayor.

Okla., Cleveland.—\$100,000 water-works bonds were recently defeated, and it is stated another election is to be called. D. Heller is City Clerk.

Okla., Enid.—\$25,000 park, \$35,000 water-works and \$100,000 convention hall bonds defeated.

Okla., Henryetta.—\$40,000 school bonds have been purchased by Geo. I. Gilbert, Oklahoma City, Okla.

Okla., McAlester.—Election is to be held Apr. 29 to vote on \$200,000 Pittsburg county road bonds. Address County Commrs.

Okla., Okmulgee.—Bids will be received until 2 P. M. Apr. 24 for \$125,000 5 per cent. 25-year Okmulgee county courthouse and jail bonds, dated Apr. 1, 1916. At the same time \$50,000 5 per cent. 25-year road-improvement bonds Henry township will be offered; dated Mch. 1, 1916. Martin Ryan is County Treas. Further particulars will be found in the advertising columns.

Okla., McAlester.—Election was held Apr. 11 to vote on \$75,000 6 per cent. 20-year school bonds, dated Apr. 11, 1916. Result not stated. Address H. I. Aston.

Okla., New Wilson.—\$25,000 6 per cent. \$1000 denomination water-works and electric-light bonds, recently sold, were purchased by C. Edgar Hannon, Oklahoma City.

Okla., Tulsa.—\$100,000 sewer bonds have been purchased at par, accrued interest and \$327.50 premium by Geo. W. and J. E. Pier-sol, Oklahoma City.

Okla., Waurika.—Election is to be held in Earl township, Jefferson county, May 11 to vote on \$25,000 road bonds. Address County Commrs.

R. C., Aiken.—Bids will be received until 10 A. M. May 1 for \$40,000 5 per cent. 10-year Aiken county bonds. John Staubes is Chief Commr. Aiken County. Further particulars will be found in the advertising columns.

S. C., Spartanburg.—Election is to be held Apr. 29 to vote on \$5000 school district school-building bonds. Address Bd. of Education.

S. C., St. George.—Bids will be received until May 1 for \$15,000 water-works and \$5000 electric-light 5½ per cent. 20-40-year bonds.

We Finance

Electric Light, Power and Street Railway Enterprises
With Records of Established Earnings

We Offer

Bankers and Investment Dealers
Proven Public Utility Securities
Correspondence Solicited

Electric Bond and Share Company

(Paid-up Capital and Surplus, \$13,000,000)
71 Broadway New York

\$60,000 City of Macon, Georgia, 4½s

Dated June 1st, 1915

Due serially as below

\$2,000 due 1930	\$ 1,000 due 1936	\$10,000 due 1940
\$5,000 due 1933	\$10,000 due 1937	\$10,000 due 1941
\$2,000 due 1934	\$10,000 due 1939	\$10,000 due 1942

Price to net 4.10%.

W. M. DAVIS COMPANY

Investment Securities

Georgia Casualty Bldg., MACON, GA.

Marketing Municipal Bonds

Do you know why New York payment of bonds and coupons enhances value?

We shall be pleased to accord the benefit of our 30 years' experience in the Municipal Bond Business regarding contemplated issues.

Seasongood & Mayer

CINCINNATI

WE PURCHASE

Municipal and Corporation Bonds

Contractors and Municipal Officials, we would be glad to communicate with you regarding any new issues of bonds that you have in contemplation. We also invite correspondence from private investors who wish to market high-grade Municipal Bonds or other seasoned securities. Communication between us may prove of mutual advantage. Please address all inquiries to the Bond Department of our Cleveland office.

OTIS & CO.

INVESTMENT BANKERS

CUYAHOGA BUILDING
CLEVELAND

DENVER

COLUMBUS

COLORADO SPRINGS

BAKER, WATTS & COMPANY

BANKERS

We purchase

State, City and County Bonds

Loans made in anticipation of Tax Collections
Southern Issues a Specialty

Correspondence invited from Municipal Officials, Banks and Private Investors
Send for book on "Municipal Obligations"

Calvert and German Sts.

BALTIMORE, MD.

— WE BUY BONDS —

Of Cities, Counties, School, Road or Drainage Districts
AND SPECIALIZE

In Working With Contractors and Engineers

W. L. SLAYTON & CO., - TOLEDO, OHIO

We Buy

City, County
School and Drainage

BONDS

FROM MUNICIPALITIES OR CONTRACTORS

We are in position to pay HIGHEST PRICES.

Write or Wire Us Your Offerings

THE NEW FIRST NATIONAL BANK Assets, \$8,000,000 COLUMBUS, O.

WE BUY MUNICIPAL, COUNTY AND DISTRICT BONDS

FROM OFFICIALS DIRECT OR FROM CONTRACTORS

And are Equipped by Experience to Furnish Proper Advice and Legal Proceedings

Write to Us

THE RUDOLPH KLEYBOLTE COMPANY

18 East Fourth Street

Established 1891

Cincinnati, Ohio

LOANS MADE TO STATES, CITIES, COUNTIES, ETC.

Also Entire Issues of Bonds Purchased

We prepare and certify as to the genuineness of
MUNICIPAL BONDS

Largest Capital and Surplus of Any Financial Institution in Maryland
or Any Southern State

Established 1884

Resources \$21,000,000

MERCANTILE TRUST AND DEPOSIT COMPANY

OF BALTIMORE

A. H. S. POST, President

F. G. BOYCE, Jr., Vice-President

COTTON YARNS

Paulson, Linkroum & Co.

COMMISSION MERCHANTS

NEW YORK PHILADELPHIA CHICAGO
87-89 Leonard Street 120 Chestnut Street 206 South Market Street

AUDITS SPECIAL EXAMINATIONS SYSTEMATIZING
ALONZO RICHARDSON & CO.
CERTIFIED PUBLIC ACCOUNTANTS
EMPIRE BUILDING ATLANTA, GA.
A staff of thoroughly trained and qualified accountants, whose experience enables them to make a critical analysis of books and accounts.

BLACK & COMPANY
(WILMER BLACK, C. P. A.)
CERTIFIED PUBLIC ACCOUNTANTS
Suite 1208 Garrett Building BALTIMORE, MD.

York Safe and Lock Company
MANUFACTURERS OF
SAFES and VAULTS
YORK, PA. BALTIMORE, MD.

DIXIE LETTER HEADS
For Bank, Mill, Mine, Factory and Commercial House
BEAUTIFUL WHITE BOND, FULL 20-LB WEIGHT
5,000 for \$8.75 15,000 for \$23.50
10,000 " 16.50 20,000 " 30.00
Samples on Request
LAREW PRINTING CO. Knoxville, Tenn.

Write us about Investments in Birmingham
Real Estate.
Jemison Real Estate & Insurance Co.
Real Estate
General Insurance, Loans
211 N. Twentieth St. BIRMINGHAM, ALA.

FOR SALE Timber, Coal, Iron, Ranch
and Other Properties.
Southern States, West Indies, Mexico.
GEO. B. EDWARDS
(Broker.)
Tribune Building, NEW YORK, N. Y.
Confidential Negotiations, Investigations,
Settlements, Purchases of Property.

Manufacturers and Farm Loans
American manufacturers are making money now. Some of their profits ought to be invested in Farm Loans.
We offer mortgages of the choicest character on farms in Georgia and Alabama. These States are leaders in the great campaign of crop diversification that will revolutionize the South.
It is inevitable that land values will increase from year to year.
THE SOUTHERN MORTGAGE COMPANY
Capital \$300,000 Established 1870
Atlanta, Georgia

To Manufacturers and Capitalists

Contemplating the Establishment of Industrial Enterprises

Attention is called to the exceptionally favorable location of

NEWPORT NEWS, VA.

on Hampton Roads, fifteen miles from the sea.
deep water, railway and sea transportation facilities unrivalled. Climate salubrious. Apply to

W. B. LIVEZEY, President OLD DOMINION LAND COMPANY
NEWPORT NEWS, VA.

CONVERSE COLLEGE

SPARTANBURG, S. C.

is one of the only six women's colleges in the South honored by membership as a standard college in "The Association of Colleges and Preparatory Schools of the Southern States." Its B. A. degree is accepted by the highest grade Colleges and Universities and admits, without further work, to candidacy for the M. A. degree. It has separate science, music, and library buildings; dormitories limited to 190; gymnasium and infirmary; 42-acre campus; and 38 teachers and officers. It is thirty-five miles from the Blue Ridge mountains, and has an ideal winter climate. It owes no debts, and has an endowment. It is accessible North, East, South, and West by six lines of railway. If you wish a catalogue, address

ROB'T. P. PELL, Litt. D., President Spartanburg, S. C.

dated Apr. 1. Address Comms. of Public Works or J. H. Whetsell, Chrmn. Further particulars will be found in the advertising columns.

Tenn., Benton.—Polk County Court has authorized issue of \$95,000 of bonds for roads and other purposes. Address County Comms.

Tenn., Cleveland.—\$25,000 road and \$10,000 school bonds Bradley county are to be issued. Address County Comms.

Tenn., Henderson.—Election will probably be held in August to vote on \$100,000 Chester county road bonds. Address County Commissioners.

Tenn., Kingston.—\$50,000 5 per cent. 20-year \$500 denomination Roane county bridge bonds have been purchased by the Prudential Insurance Co. of America at \$52,200.

Tenn., Madisonville.—Bids will be opened May 10 for \$150,000 25-35-year road improvement and \$40,000 25-year school 5 per cent. Monroe county bonds. A. M. Swanay is Chrmn. County Court, Vandre, Tenn. Further particulars will be found in the advertising columns.

Tenn., Madisonville.—\$86,000 Monroe county school bonds are voted. Address Board of Education.

Tenn., Marshall.—\$50,000 5 per cent. 40-year Marshall county high-school bonds have been sold to L. M. Wethers & Co., Memphis, at \$52,150.

Tenn., Newport.—Coke County Court has passed a resolution authorizing issue of \$30,000 central county high-school bonds.

Tenn., Paris.—Election is to be held in August to vote on \$250,000 Henry county highway bonds. Address County Comms.

Tenn., Savannah.—Election is to be held in Hardin county June 3 to vote on \$100,000 road bonds. Address County Comms.

Tenn., Union City.—Election is to be held in Obion county May 9 to vote on \$500,000 5 per cent. 1-40-year road bonds. Address County Comms., W. M. Miles, Chrmn.

Tenn., Wartburg.—Election is to be held in Morgan county May 20 to vote on \$270,000 road bonds. Address County Comms.

Tex., Austin.—The Attorney-General has approved the following securities: \$4000 5 per cent. bonds Angellina County School Dist. No. 6; \$10,500 6 per cent. Mineral Wells street-improvement bonds; \$4000 6 per cent. Mineral Wells Common School Dist. No. 3 schoolhouse bonds; \$50,000 5 per cent. 5-40-year bonds Lockney Independent School Dist., Floyd county; \$20,000 5 per cent. 1-40-year bonds Brazoria County Common School Dist. No. 35 schoolhouse bonds; \$1996 5 per cent. 20-40-year Longview water-works bonds; \$1996 5 per cent. 20-40-year Longview sewerage maintenance and extension bonds; \$100,000 5 per cent. Henderson County Road Dist. No. 1 bonds.

Tex., Bartlett.—\$24,000 5 per cent. 10-40-year \$500 denomination street-paving bonds have been purchased at 102 and accrued interest by First National Bank, Bartlett, dated April 1, 1916.

Tex., Big Springs.—\$40,000 5 per cent. 40-year \$1000 denomination Big Springs Independent School Dist. bonds have been sold at \$1046 premium. Address M. H. Brasher.

Tex., Dallas.—\$500,000 light, \$300,000 sewer and \$250,000 park bonds are voted. Manning B. Shannon is City Finance Commr.

Tex., Ennis.—\$80,000 5 per cent. 40-year \$1000 denomination school bonds have been purchased at 101 and accrued interest by W. R. Compton & Co., St. Louis.

Tex., Fairfield.—Election will probably be held in Streetman Dist., Freestone county, to vote on \$62,000 road bonds. Address County Comms.

Tex., Falfurrias.—Brooks county will issue road warrants. Election called Mch. 25 called. J. A. Brooks is County Judge.

Tex., Goliad.—\$15,000 6 per cent. 1-10-year Goliad county road and bridge funding warrants, dated March 3, have been purchased by J. L. Arlitt, Austin, Tex.

Tex., Iowa Park.—\$16,000 5 per cent. 10-40-year school-building and equipment bonds are voted. Address A. L. Brubaker, Prest. School Board.

Tex., Marlin.—\$12,500 city hall and \$5000 pavilion bonds defeated.

Tex., Springtown.—\$11,000 bonds Springtown Independent School Dist. are voted. Address Board of Trustees.

Tex., Belton.—Election is to be held in Sulphur Springs Road Dist., Bell county, to vote on \$3000 road bonds. Address County Comms.

Tex., Dallas.—\$8000 5 per cent. \$100 denomination school bonds Estill Common School Dist. 52, Dallas county, are voted. Address C. H. Elsby, Dallas R. No. 5, Dallas.

Tex., Galveston.—Bids will be received until 11 A. M. April 10 for the following bonds: Seawall and breakwater, \$25,000; causeway bridge, \$10,000; special road, 1913, \$7000. John M. Murch is County Auditor.

Tex., Lometa.—\$10,000 Independent School Dist. bonds recently voted are 40-year 5 per cent.; denomination \$1000; dated Apr. 1, 1906. Bids for same will soon be asked. Address School Board.

Tex., Marlin.—Bids will be received until Apr. 21 for \$90,000 school, \$45,000 sewer and \$15,000 water-works 4½ per cent. 10-40-year \$500 denomination bonds, dated April 10, 1906. E. W. Bounds is Mayor and J. H. Powell, City Secy.

Tex., Paris.—\$10,000 sewer and \$40,000 school 5 per cent. 10-50-year \$1000 denomination bonds are voted, and they will be offered in about 30 days. Ed. H. McCulston is Mayor.

Tex., Port Arthur.—\$450,000 5 per cent. 40-year \$1000 denomination Port Arthur Independent School Dist. bonds have been purchased at par, accrued interest and \$17.27 premium by Sidney Spitzer & Co., Toledo, O.

Tex., Seadrift.—Election to vote on water-works bonds will be held Apr. 21. Address The Mayor.

Tex., Terrell.—Poetry Independent School Dist., Kaufman county, bonds have been purchased by the State of Texas. R. C. Stiles is Secy. Board of Trustees.

Tex., West.—Election is to be held May 2 to vote on \$1000 city hall and \$1000 street bonds. Address City Comms.

Va., Accomac.—Bids will be received until 10 A. M. April 25 by John D. Grant, Jr., Clerk Board Suprvs. Accomac County, for \$10,000 30-year Atlantic magisterial road bonds; denomination \$100.

Va., Mineral.—Election is to be held Apr. 29 to vote on \$10,000 water-works and electric-light bonds. Address The Mayor.

Va., Pulaski.—\$86,000 Jefferson Dist., Pulaski county, road bonds are voted. Address County Comms.

W. Va., Beckley.—Districts in Raleigh county have voted 5 per cent. 1-30-year road bonds as follows: Trap Hill, \$135,000; Shady Springs, \$190,000; Shab Fork, \$210,000; Town Dist., \$300,000. Jackson Smith is Clerk Raleigh county.

W. Va., Jane Lew.—Bids will be received until 8 P. M. May 1 by Geo. B. Waggoner, Recorder, for \$15,000 5 per cent. \$500 denomination street paving bonds, dated Aug. 2, 1915, and maturing \$7500 Nov. 8, 1925, and the balance are optional at the Town to redeem any one or more on any annual anniversary.

W. Va., Lewisburg.—\$90,000 5 per cent. 20-year \$100, \$500 and \$1000 denomination White Sulphur Springs Dist., Greenbrier county road bonds are voted. Jno. S. Crawford is County Clerk.

W. Va., Logan.—The \$200,000 Logan Dist., Logan county, road and bridge bonds to be voted on April 22 are 5-20-year 5 per cent. Denominations \$100, \$500 and \$1000. Dated May 20, 1916. Chas. H. Miller is County Clerk.

W. Va., Parkersburg.—Election is to be held in Tygart Dist., Wood county, May 2, to vote on \$70,000 5 per cent. road-improvement bonds. Address County Comms.

W. Va., Spencer.—\$240,000 Spencer Dist., Roane county, road bonds are voted. N. A. Carpenter is Clk. County Comms.

W. Va., Wheeling.—Election is to be held about July 1 to vote on \$300,000 bonds for installing well system of filtration. Address J. H. Brennan, City Solicitor.

FINANCIAL NOTES

One hundred and sixty thousand dollars of 6 per cent. second mortgage bonds of the Michigan Boulevard Bldg., Chicago, have been sold by L. N. Rosenbaum, 80 Wall St., New York, at 95 and interest, the bonds maturing equally July 2, 1917, and 1918.

A report from Durham, N. C., says that the Bahama (N. C.) Rural Credits Union will be opened for business Apr. 11 following its final organization at a meeting of the Bahama Community Club, W. B. Camp of Raleigh, State organizer of the rural credits union, is to be present.

The Florida Bankers' Association at its annual convention, held at Daytona, Fla., elected F. M. Conrad of Daytona, President, and Forrest Lake of Sanford, G. B. Lamar of St. Augustine, G. G. Well of Leesburg and R. W. Goodhart of Pensacola, respectively, first, second, third and fourth vice-presidents. G. R. DeSaussure of Jacksonville is Secy. and Treas.

ARCHITECTS ENGINEERS

CHEMISTS

GEOLOGISTS

CONTRACTORS

Ford, Bacon & Davis, Engineers,

115 Broadway, New York

New Orleans

San Francisco

ARTHUR D. LITTLE, Inc.

ESTABLISHED 1886

The oldest, largest and best equipped organization of Chemists and Engineers in the country for the investigation of conditions affecting the efficiency and economy of industrial operations.

93 Broad Street

BOSTON

J. E. SIRRINE

Mill Architect and Engineer

SPECIALTY:

Textile Mills and Water Power Developments

GREENVILLE, S. C.



Stone & Webster Engineering Corporation

Constructing Engineers

NEW YORK

BOSTON

CHICAGO

THE INSTITUTE OF INDUSTRIAL RESEARCH

(INCORPORATED)

Chemical and Engineering Laboratories

Consulting Chemists and Chemical Engineers

Plant Design and Construction

WASHINGTON, D. C.

THE J. G. WHITE COMPANIES

ENGINEERS

FINANCIERS

43 EXCHANGE PL.



CONTRACTORS

OPERATORS

NEW YORK

ATLANTIC ENGINEERING COMPANY

Civil Engineers

Specialties on Land Drainage, Real Estate Developments, Highways, Bridges, Water Powers, Steam and Electric Railroads. Railroad Valuation, General Appraisals.

Germania Bank Building

SAVANNAH, GA.

SCOFIELD ENGINEERING COMPANY

Consulting and Designing Engineers

ALL CLASSES PUBLIC UTILITIES

PHILADELPHIA

PENNSYLVANIA

GRAVES ENGINEERING CO., Inc.

MANAGE, CONSTRUCT, FINANCE

Public Utility Properties

Examinations and Reports. Rate Specialists.

25 PINE STREET

NEW YORK



H. M. BYLLESBY & COMPANY

Engineers and Managers

Purchase, Finance, Design, Construct and Operate Electric Light, Gas, Street Railway and Water Power Properties. Utility Securities Bought and Sold. Examinations and Reports.

NEW YORK
Trinity Bldg.

CHICAGO
Continental & Commercial Bank Bldg.

TACOMA
WASHINGTON

THE S. R. SMYTHE COMPANY

Engineers

PITTSBURGH, PA.

Contractors

Steel Works, Rolling Mills, Blast Furnaces, Hot Blast Stoves, Furnaces for all Purposes. Operated with Producer Gas, Natural Gas, Oil or Pulverized Coal. Coke Ovens. Gas Producers, Hand Operated or Mechanical.

The Value of the Era.

SCHILD SLIDING GAS AND AIR REVERSING VALVES

HUNT ENGINEERING CO.

Designing, Constructing and Operating Engineers and Contractors

Experts in Portland Cement Engineering

Examinations and Reports Made

513-517 Republic Building

KANSAS CITY, MO.

ARCHITECTS ENGINEERS

Your card on these pages will place you directly before the active forces of the South and Southwest.

ISHAM RANDOLPH & CO.

CHICAGO

JACKSONVILLE

Consulting Engineers

Reports, Plans, Supervision, Drainage, Harbor Work, Water Power, Bridges, Municipal Work and Railways.

1310 Heard Bldg. JACKSONVILLE, FLA.

H. E. MOLÉ

Engineer

Examinations, Estimates and Reports. Plans and Specifications. Lighting and Power Properties.

55 Liberty Street

NEW YORK

The Associated Geological Engineers

Petroleum Division

FREDERICK G. CLAPP, Managing Geologist
Reports on Oil and Gas Properties

120 Broadway

NEW YORK

YATES & YATES

Engineers

Steel and Reinforced Concrete. Industrial and Power Plants. Reports, Designs, Valuations.

120 Broadway

NEW YORK CITY

EDWIN WORTHAM, E. E.

Consulting and Supervising Engineer

The Design and Operation of Factories, Industrial Plants, Railways and Public Utilities.

Allison Bldg.

RICHMOND, VA.

T. T. GRAY

Industrial Research Chemist and Petroleum Engineer.

Petroleum and its Products, Compounds, Greases and Specialties. Examinations, Refining, Manufacturing, Specifications, Research.

1363 North Ave.

ELIZABETH, N. J.

EDWARD F. TERRY

President.

FREDERICK TENCH

V.-P. & Treas.

THE TERRY & TENCH CO., Inc.

Bridge Builders,

General Contractors, Engineers and Designers.

Grand Central Terminal

NEW YORK

COMSTOCK ELECTRIC CO., Inc.

Contracting Engineers

HIGH POINT, N. C.

HENRY MASSART, C. E.

INDUSTRIAL ARCHITECT

and CONSULTING ENGINEER

Fireproof Construction

15 E. Fayette St.

Baltimore, Md.

Dredging

RIVER AND HARBOR IMPROVEMENTS

Hydraulic Fills Land Drainage Dock Construction

GLOBE DREDGING CO.

SAVANNAH, GA.

THE J. B. McCRARY COMPANY

Engineers

ATLANTA, GEORGIA

MUNICIPAL IMPROVEMENTS

Southern work only. Have built over half of the Water, Light and Sewer Systems in Georgia and Alabama. We Design — Finance — Superintend. Bonds Purchased.

ARCHITECTS ENGINEERS GEOLOGISTS CHEMISTS CONTRACTORS

A. P. CORNELL, President W. A. YOUNG, Sec'y & Treas. R. H. JONES, Asst. Sec'y & Treas.
CORNELL-YOUNG COMPANY
INCORPORATED
General Contractors
Gen'l Office, 4th Nat. Bank Bldg. MACON, GA.


FOSTER & CREIGHTON COMPANY
Engineers and General Contractors
NASHVILLE, TENNESSEE
Steel and Concrete Construction Sawn, Planed, Turned and Cut Stone
Crushed Stone and Rockwood Oolitic Dimension Stone

SAVANNAH ENGINEERING AND CONSTRUCTION CO.
SAVANNAH, GEORGIA
Engineers and Constructors

C. W. LANE & CO., Inc.
General Contractors
Steam and Electric Railroads, Water Powers Developed.
City Water Works, Sanitary Sewers, Street Paving, Concrete Buildings.
General Offices, Healey Building ATLANTA, GA.

W. H. FLEMING
Asbestos and Insulating Engineer
Insulating for Steam-Water Refrigeration. Saving of Heat Units.
Contracting and Superintendence for any work along these lines.
1523 Jefferson Co. Bank Bldg. BIRMINGHAM, ALA.

GENERAL PURCHASING AGENT
Supplies and equipment for manufacturers of all kinds;
quarries, mines, contractors, lumber and woodworking plants.
HOWARD S. GRIMES
429 Law Building BALTIMORE, MD.

 **SPRAY ENGINEERING COMPANY**
Engineers Manufacturers
For Spray Cooling Ponds, Irrigation Systems, Aerating Reservoirs, Odor Condensers, Gas Washers. Of Air Washers, Spray Nozzles, Aerating Nozzles, Asphalt Nozzles, Park Sprinklers.
93 Federal Street BOSTON, MASS.

TUCKER & LAXTON
Contracting Engineers
Filters, Concrete Work, Hydro-Electric and Steam Electric Construction
CHARLOTTE, NORTH CAROLINA

THE CONCRETE STEEL BRIDGE COMPANY
Engineers and Contractors Reinforced Concrete Bridges and Buildings
708-9 Union National Bank Building CLARKSBURG, W. VA.

ELECTRIC BLUE PRINT & SUPPLY CO.
Drawing Materials Surveying Instruments, Map Work, Architects' and Engineers' Supplies
30-31-32 Board of Trade Building LOUISVILLE, KY.

A. M. LOCKETT & CO., Ltd.
Contracting Mechanical Engineers
COMPLETE POWER PLANTS
Specialists in Construction of Pumping Plants
for Drainage or Irrigation.
NEW ORLEANS, LA. HOUSTON, TEX.

[Continued from Page 73.]

turned out by a local machine shop. Students of other classes have at various times made engines of different types, which are now operated at the school. Following completion of the lathes work will commence on a cross-compound Buckeye engine, the castings for which are completed.

Wrong Address Given.

In noting the "new deal in hollow steel doors" of the Solar Metal Products Co., in last week's Manufacturers Record, the Chicago address of the Watson Solar Window Co., of which the former is a reorganization, was inadvertently given. The correct address of the Solar Metal Products Co. is Columbus, O.

Sale of Woolen Mill.

The real estate holding of the Nashville Woolen Mill, consisting of a lot in the manufacturing district of Nashville, Tenn., fronting on two railroads and connecting with three others by spur, with brick buildings and mechanical equipment for woolen manufacturing, will be sold at public auction on the premises, Southern Railway and 12th Ave., on April 27, by J. E. Conant & Co., auctioneers, Lowell, Mass., for the First and Fourth National Bank, Nashville.

Works for Boiler Law Adoption.

Thos. E. Durban, Chairman of The American Uniform Boiler-Law Soc. for the legal adoption of the A. S. M. E. Boiler Code, in Bulletin No. 2 states that considerable progress has been made in the campaign in New York, Maryland, Virginia, New Jersey, and some in Rhode Island. Prospects are characterized as bright for the inauguration of the campaign before the legislatures of Kentucky, Tennessee, Louisiana, Georgia and other States of the South and Southwest. The co-operation of members in the education of the public to the need of boiler laws is urged by the chairman.

TRADE LITERATURE.

Motor Stock Prospectus.

Facts concerning the Chevrolet Motor Co., Flint, Mich., are given in a pamphlet issued by Miller & Co., stocks, 29 Broadway, New York. The history, present status and future of the company are given as evidence of the desirability of Chevrolet stock for investment.

Elevated Steel Tanks.

Railway service tanks are illustrated and described in a booklet issued by the Pittsburgh-Des Moines Steel Co., Pittsburgh. Steel water tanks in use by various railroads are shown, and an all-steel coaling station consisting of elevator and tank container. Copies will be mailed on request.

Wood Preservation.

Conservation by preservation, and how to obtain it, is discussed in a booklet issued by the C-A-Wood-Preserver Co., Inc., St. Louis, Mo. Results of tests on wood exposed with and without C-A-wood preserver are shown, the treated wood having far outlived the other. Thorough directions on the use of the material and commendations from users are given.

Gasoline Electric Generating Sets.

Catalogue 205 in the Sturtevant engineering series describes, giving photographs and line drawings, Sturtevant 5 and 10 K. W. gasoline electric generating sets, manufactured by the Sturtevant Manufacturing Co. and sold by the B. F. Sturtevant Co., both of Hyde Park, Boston. These sets are claimed to put electric light and power

within the reach of isolated dwellings and other buildings at an economical figure.

Pipe Welding.

An elaborate discussion of the welding of National pipe, manufactured by the National Tube Co., Pittsburgh, is contained in Bulletin 26 from that company. Aside from a general treatment of the subject of welding, instances are shown of the adaptability of National pipe to that mode of union and the difficult shapes into which it can be successfully formed. The most prominent feature is the welding of gas pipes on the job.

Twelve Historic Views.

Monthly calendars for the next twelve months, each bearing an artistic print of a famous castle of the Old World, will be distributed by the Standard Portland Cement Co., Birmingham, Ala. The first has been sent out. It is for April, and gives a copy of a painting of Heidelberg Castle on the Neckar River, Germany. On the back is a little cement talk. The pictures on the calendars are mounted suitably for framing, without advertising of any kind on them.

Carey Building Materials.

A book consisting of seven bulletins of architects' specifications for Carey building materials, made in conformance with those set forth by The American Institute of Architects, has been issued by The Philip Carey Co., Lockland, Cincinnati, O. The removal of the fasteners and cover will release the bulletins for alphabetical filing, the topics being Carey flexible cement roofing, Asphalt slate shingles, Cell-Board, rubber roofings, Elastite expansion joint, Percoprop and Fibre-wove, insulating paper, magnesina and asbestos insulating products.

Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 24, 1912, of MANUFACTURERS RECORD, published weekly at Baltimore, Md., for April 1, 1916:

State of Maryland }
City of Baltimore }

Before me, a Notary Public, in and for the State and city aforesaid, personally appeared Frank Gould, who, having been duly sworn according to law, deposes and says that he is the Vice-President of the MANUFACTURERS RECORD, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor, managing editor and business managers are: Publisher, Manufacturers Record Publishing Co., Baltimore, Md.; editor, Richard H. Edmonds, Manufacturers Record, Baltimore, Md.; managing editor, none; business managers, Frank Gould and Victor H. Power, Manufacturers Record, Baltimore, Md.

2. That the owners are: Richard H. Edmonds, Manufacturers Record, Baltimore, Md., 539 shares; Mrs. Addie L. Edmonds, Manufacturers Record, Baltimore, Md., 10 shares; Miss Mary E. Edmonds, Manufacturers Record, Baltimore, Md., 80 shares; Frank Gould, Manufacturers Record, Baltimore, Md., 41 shares; I. S. Field, Manufacturers Record, Baltimore, Md., 60 shares; C. R. Marchant, Manufacturers Record, Baltimore, Md., 44 shares; V. H. Power, Manufacturers Record, Baltimore, Md., 12 shares; J. Robert Gould, Manufacturers Record, Baltimore, Md., 69 shares; William C. Sedon, Union Trust Building, Baltimore, Md., 4 shares; Mrs. Mattie W. Grasty, Staunton, Va., 150 shares; miscellaneous, 11 individuals owning each less than 1 per cent. of capital stock, 65 shares; total, 1250 shares.

3. That there are no outstanding bonds, mortgages or other liens against the property.

4. That the two paragraphs next above, giving the names of the owners, stockholders and security-holders, if any, contain not only the list of stockholders and security-holders as they appear upon the books of the company, but also, in cases where the stockholder or security-holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security-holders who do not appear upon the books of the company as trustees hold stock and securities in a capacity other than that of a bona fide owner, and this affiant has no reason to believe that any other person, association or corporation has any interest, direct or indirect, in the said stock, bonds or other securities than as so stated by him.

FRANK GOULD,
Vice-President.

Sworn to and subscribed before me this 31st day of March, 1916.
JOHN W. HEWES.
(My commission expires May 1, 1916.)

PATENTS MANUFACTURERS B-U-Y

are the kind we obtain. RELIABLE Books giving particulars and information of greatest interest and value to Inventors, FREE.

Write R. S. & A. B. LACEY, Patent Lawyers
790 Barrister Bldg. Washington, D. C.
ESTABLISHED 1869.



We test foundations for buildings, bridges and dams.
We Prospect coal and mineral lands in any part of North and South America.

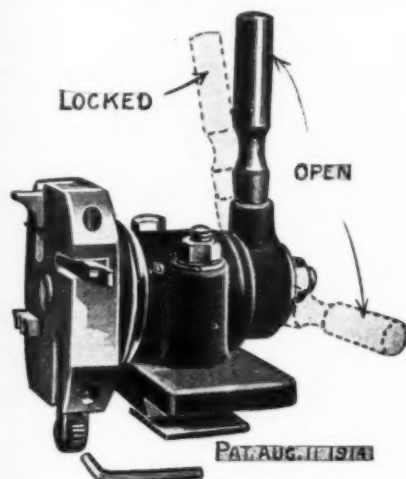
WE LOOK INTO THE EARTH
By use of Diamond Core Drills
PENNSYLVANIA DRILLING COMPANY
2623 Whitehall Bldg., New York. 30 Carson St., Pittsburgh, Pa.
Phone Rector 993. Phone Hemlock 305.

MECHANICAL

Illustrations and descriptions having news value pertaining to developments in machinery, mechanical devices and inventions will be considered for use in this department.

Four-Tool Post for Lathe.

Placing at the command of the lathe operator four tools instead of one is the purpose of a turret tool post developed by the Newman Manufacturing Co., Cincinnati, O. It is attached in the tee slot of the carriage of any lathe after the previous tool post is removed.



IMPROVED LATHE TOOL-POST.

Only a very short time is claimed to be necessary for changing from one tool to another, and the post is said to be as firm as a single-tool post. The device is designed for forming and knurling, roughing, boring and finishing.

Dry Vacuum Pump Developed.

From its make of straight line air compressors the Ingersoll-Rand Company, 11 Broadway, New York, has developed a dry vacuum pump, the Ingersoll-Rogler, designed for service requiring the maintenance of a high vacuum. It is of the horizontal, center-crank type, steam or power driven. The adoption of an automatic lubricating system with removable cast covers that prevent the lubricant from escaping and, while affording quick access to all parts completely exclude dust and grit, is claimed to be an advantageous feature.

The vacuum cylinders are fitted with automatic Ingersoll-Rogler valves of the multi-ported plate type, said to possess ample port opening, with very slight

lift, and requiring no lubricant. Inlet valves are placed in the top and discharge valves in the bottom of the cylinder heads, which construction is intended to provide for the immediate discharge of any liquid entering the cylinder. Water-jacketing both cylinder barrels and heads is said to increase the efficiency by keeping down the heat generated in the vacuum cylinders.

The power-driven machine (class ER) may be furnished with short-belted electric motor as a complete unit, or with belt wheel for other drive. The steam-driven type (class FR) has a balanced piston steam valve which permits its operation on high pressure and superheated steam, and is furnished with a continuous sub-base under the entire unit. Both vacuum and steam cylinders are lubricated by a force-feed lubricator.

Due to the high operative speeds permissible with low lift plate valves of the Ingersoll-Rogler type, it is claimed that the capacity of a pump of a given size has been so increased that in comparison with equal capacity of the old type the floor space is reduced by about one-third. The machines range in capacity from 292 to 2295 cubic feet per minute, and are guaranteed by the manufacturer to maintain a vacuum of within one-half inch of barometer against a closed intake. They are also said to be capable of handling discharge pressures of several pounds.

FOREIGN NEEDS

Tin Can Manufacturing Machinery.

Wm. D. Edwards, heating, ventilating and mechanical engineer, Southbridge, Mass.:

"I have a request from the Russian Government Agricultural Agency for the names and addresses of firms manufacturing machinery and equipment for making cans. This is in connection with investigations being made by that Government relative to the establishment of canning plants in that country."

Corsets, Hosiery, Underwear, Slippers, Etc.

Asbel A. Tejada C., Comersiante Importador, Cali-Colombia, S. A.:

"I thank you for the good reception accorded my orders by the business houses whose directions you furnished. In writing these houses I have stated I got their addresses from you. Having an urgent need for goods which I would like to import on as advantageous terms as possible, I give you here a list of the required articles: Cravats of all kinds; stockings for children up to four years of age; short stockings; corsets;

underclothing of stockinette, with long sleeves; blouses for ladies, made of white material, with measures and means of fitting; slippers for men and women; leather slippers. (All by the dozen.) I want the cravats of silk, and would like them to be of various designs; also narrow tubular ties of silk, cotton and mercerized goods that can be washed. If prices are moderate there will be good business."

Hosiery and Soft Goods.

Setton, Friedmann & Co., P. O. Box 84, Cairo, Egypt:

"We thank you for a copy of the MANUFACTURERS RECORD, which shall have our best attention. If we find there firms advertising that interest us we will write them direct and mention the MANUFACTURERS RECORD as the source of our information.

"We are interested in soft goods, and should be glad to hear from you if you can put us in the way of obtaining agencies of these articles.

"There is now a good outlook for selling American goods, especially with the different difficulties that are being experienced in obtaining goods from the United Kingdom, and we think the time is now opportune for America to take advantage of this.

"We are an English firm, established in this country over 20 years.

"There is at present a brisk demand for men's cheap half-hose, orders for which can be given in large quantities.

"We are prepared to conduct business on a spot cash basis."

(It is understood that the soft goods referred to includes 40,000 pieces of 50 yards each of cotton gingham and tailor's lining and 10,000 pieces of 50 yards each of cotton trousering. Quotations wanted per yard c. i. f. Alexandria.)

Mining Machinery and Supplies.

F. C. Cornet, consulting mining engineer and geologist, Charleston, W. Va.:

"The Anglo-Belgian Engineering Co., 155 Fenchurch street, London, E. C., England, wants addresses of engineering firms constructing mining machines, especially that kind which do the cutting, bringing down and loading of the coal at the face.

"U. Frere Deulin, Gaynes road, Marsden, Upminster Essex, England, wants to correspond with American firms making mining machinery and mining supplies for the purpose of introducing their wares to the Belgian coal operators after the war. Mr. Deulin has a regular chain of customers among Belgian operators to whom he has in the past sold large amounts of German-made goods. As the latter will find Belgium barred to them in the future, Mr. Deulin will endeavor to find in this country all he needs to supply his Belgian friends."

For Russian Trade.

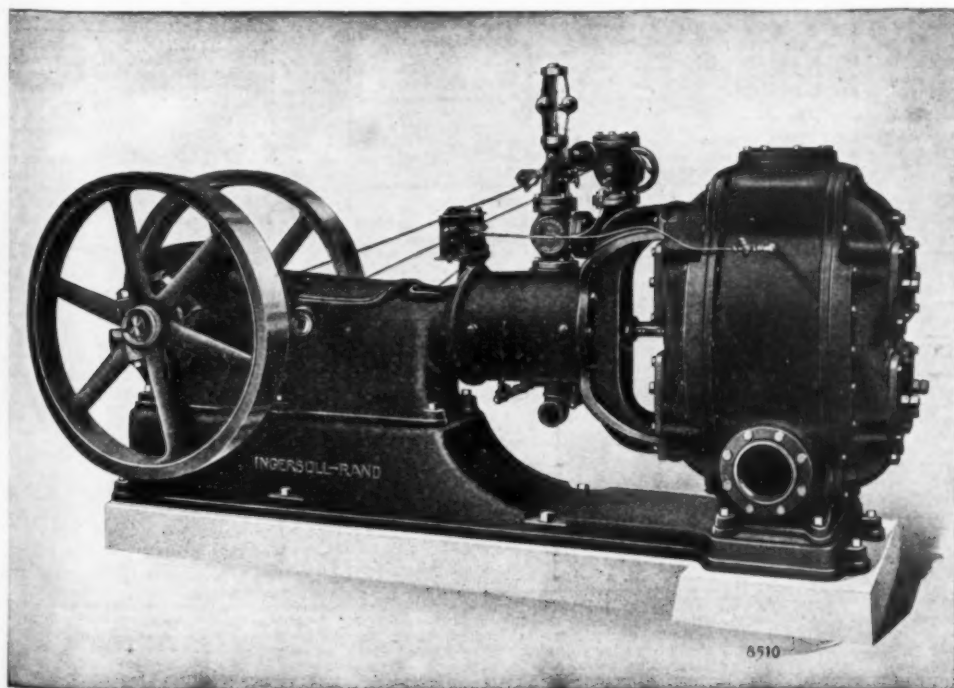
Fischer & Berlinger, Moscow, Russia:

"Established for 15 years and well introduced to first-class firms, we are able to offer special conditions for successfully selling American goods. We are interested in the following: Leather; colors; chemical products; cotton stockings; woolen and cotton yarns. For standard articles as leather it would be glad to hold here a stock of goods, because the concurrency presents the same facilities. It is the only manner to introduce a marque de fabrique. The agent is selling on cash, or, after the war, on credit under his responsibility. This manner presents no risk for the manufacturer. If you know manufacturers who are interested in trade with Russia, please invite them to write us and we shall give them all information they may desire."

Hardware, Enamelled Ware, Etc.

Guillaume Pierre Molinard, 8-10 Rue Lamartine, Port de France, Martinique:

"I would appreciate it if you will send me addresses of firms making hardware, enamelled ware of all kinds for domestic use; this includes pots and vessels for use in the kitchen. Prefer French language."



INGERSOLL-ROGLER DRY VACUUM PUMPS.

Classified Opportunities

MINERAL AND TIMBER LANDS WATER POWERS MISCELLANEOUS PROPERTIES

HAVE YOU A VALUABLE PROPERTY FOR SALE? Farm, timber land, mineral property or any other? We can help you get in touch with possible purchasers by an advertisement in these columns. For rates see head of this department.

FOR SALE—Valuable manganese property, consisting of 1400 acres of land and \$300,000 plant and equipment. The plant is now operated night and day. Big opportunity for person or persons with the necessary capital.

FOR SALE OR TRADE—1000 acres of coal in Braxton county, West Virginia. Railroad runs through the property. Price \$30,000, or will trade for first-class Virginia farm.

FOR SALE OR TRADE—Fine farm of 70 acres in Albemarle county, Virginia, near Charlottesville. Price \$6500. Will trade for good city property.

FOR SALE—Fine farm in Northumberland county, Virginia, fronting on Chesapeake Bay; 170 acres; 150 in cultivation; 20 in woodland; good buildings. Price \$12,000. Reasonable terms.

F. A. Green & Company, Room 11, Real Estate Exchange, Richmond, Virginia.

LAND GRANT—86,249.9 acres in New Mexico. Soil is a silt deposit from two rivers, and is known to be the richest kind of land for farming and fruit raising. This grant is made of valley and low mesa land, with a little high tableland. Two rivers water the grant. 30,000 acres of valley land susceptible to irrigation and the highest state of cultivation. Every kind of a cereal, grapes, fruits, except tropical fruits, can be successfully raised. Sugar beets and bee culture are important industries. 4 crops of alfalfa each season and 8000 head of cattle can graze this range without interfering with other enterprises. Grant is in a solid block with timber for stock protection, fence posts and fuel. 14 miles main-line transcontinental railroad crosses the grant. Coal beds, building stone and onyx underlie this tract. Upon request will furnish reports of U. S. deputy surveyors. A fortune in this grant for someone. Absolutely the cheapest tract of land on the market today. Price \$2 per acre, all cash. Our information bureau is at your command. Panhandle Land Co., Canadian, Tex.

2400 ACRES on the Brazos River, 4 miles from R. R. mining town; 300 acres in cul., balance grazing land; scattering of timber; good vein of coal; 2 gas wells made by boring for oil. Will sell for cash \$12.50 per acre. We have other lands, all tillable, easy terms. Let us have the opportunity to show you we can make you money. Newcastle Land Co., Newcastle, Texas.

WE OWN 8000 acres fine hardwood timber land, original growth. A large body of tale and immense beds of vari-colored marbles; also, 5000 H. P. water-power; all immediately on Southern Railway. We want additional capital to develop. Handsome dividends. North Carolina Tale and Mining Company, Hewitts, N. C.

FORTY ACRES proven mineral land, two miles from Yellville, Marion county, Arkansas, greatest zinc field known. Sulphide and carbonate shown up. Plenty timber and water. Being worked under lease giving owners 10 per cent. royalty. Five thousand dollars for fee. Fredricks, Yellville, Ark.

FOR SALE OR LEASE—A large tract of land containing feldspar (3 to 7 per cent. potash), also fuller's earth and kaolin. This land is close to S. A. L. R. R. Address Jas. A. & W. E. Hill, Abbeville, S. C.

ALL KINDS of farm lands for sale, including timber, iron and coal properties. Write for our big list today. Interstate Land Corporation, Bristol, Tenn.

FOR SALE—Iron, Coal and Timber Lands in Virginia, Tennessee and Kentucky. Address W. S. Palmer, Keokee, Va., or J. F. Munsey, Hagan, Va.

COPPER MINE

COPPER MINE FOR SALE—869 acres in Jefferson Co., Colo. Engineer's report and prospect work shows thick, rich vein of malachite mile and half through property. For reports and information write Gordon & Winn, Chattanooga, Tenn.

ZINC MINE

ZINC MINE, well-developed ore body, on large lease; low royalty; will give good interest for mill. Address W. J. Robinson, Box 717, Joplin, Mo.

ZINC LAND

ZINC LAND FOR SALE—In Marion County (Ark.) zinc field. We own and offer 6000 acres in tracts of 20 acres up at \$4.50 to \$125 per acre, according to location and development work done. Also lease on gold zinc mine of 160 acres with up-to-date mill. Three new railroads projected into this field, two of which are now building. Address Box 167, Cotter, Ark.

IRON AND MANGANESE DEPOSITS

FOR SALE OR LEASE—Million tons brown ore, on railroad; high manganese and iron. Cheap freight. T. F. Johnson, 6500 First Ave., Birmingham, Ala.

RATES AND CONDITIONS

Rate 20 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 15c. per line; 300 lines, 16c. per line; 500 lines or more, 15c. per line.

COAL AND ORE LANDS

BARGAINS—FOR SALE

10,000 acres Coal Lands in Great Warrior Coal Basin, several miles frontage on Warrior River. These lands carry the celebrated Pratt Seam and other large seams of coal. I have for sale the largest deposit of Manganese Ore Lands in the whole country, estimated over 3,000,000 tons.

Large tracts of high-grade Coal Lands in Eastern and Western Kentucky.

3000 acres Red Ore Land and 1000 acres Self-Fluxing Ore Lands, well located in Birmingham District. T. S. Smith, 1015-16 First National Bank Bldg., Birmingham, Ala.

COAL LAND AND MINE

MINE READY FOR OPERATION—24,000 ACRES, GOOD COAL LAND FOR SALE CHEAP TO CLOSE AN ESTATE.—24,000 acres good coal land, with a mine ready to operate, power plant, mining machines, cars, etc.; 14 miles of standard and narrow-gauge railroad, connecting with the Southern Railway at Lim Rock, Ala., 65 miles westerly from Chattanooga; 4 locomotives, cars; 80 dwellings and large commissary. Much valuable hardwood timber, with 2 good sawmills; most of the land on Cumberland plateau suitable for agriculture when cleared; coal known as Belmont Block, very hard, high in volatile matter, excellent for domestic use. Low freight rates and best of markets. For full particulars, price and terms address F. D. Pierce, Bridgeport, Ala.

COAL LAND

WISE COUNTY, VA., COAL ACREAGE—1000 acres for sale or lease, imbedded coking vein, Taggart gas vein. Drift openings. Price reasonable. Write owner for full information. Address Box 199, Lancaster, Pa.

COAL AND TIMBER LANDS

FOR SALE—9000 acres coal and virgin timber in Harlan county, Ky., on the L. & N. R. R.; 5 seams high-grade coal 4 ft. to 9 ft. thick. Title perfect. Come and see and be convinced. Smith Leford, Harlan, Ky., Box 116.

FOR SALE—Coal and timber lands in Southeastern Kentucky near railroads; any sized tracts; also mineral and timber tracts in East Tennessee. Spears Havelly, Hubbard Springs, Va.

TIMBER LAND

16,000 ACRES in Alabama on two rivers, with 15 years to cut and remove, estimated to cut 64,746,400 ft. of principally hardwood timber from 18 to 50 inches on the stump; average size 26 inches; tall and nice. 14,000 acres in Dickinson county, Va., on the waters of the Big Sandy River; down haul to river and also to C. & O. and Ohio R. R.; 60 per cent. oak, 20 per cent. poplar, 20 per cent. chestnut, hemlock, etc.; 20 years to cut and remove. The prices on both tracts are reasonable to quick purchaser. H. C. Hoggard & Co., Norfolk, Va.

77,000,000 HARDWOOD TIMBER; 9600 acres on Oconee River, Georgia, and near Central R. R.; 40% ash, 10% red gum; 50% the latter used for furniture. Just across the river large lumber company paid \$15 per acre and is now cutting off 5000-acre tract. Fine farming land. Price \$13 per acre, fee simple. G. M. McKinnon, Peters Bldg., Atlanta, Ga.

FINE BODY VIRGIN PINE CHEAP—24,000 acres virgin pine in solid body, on railroad, near good market. Certified cruise of 4000 ft. to the acre. Turpentine and timber privileges, \$10 per acre. Will make terms. Also have some smaller tracts. Sargent & Gautier, 22 Julia St., Jacksonville, Fla.

FOR SALE—7000 acres short-leaf pine and hardwood; will cut 7000 feet per acre; 20% hardwood and 80% pine; wish to sell direct; no commission. This tract of timber is 6 miles from railroad. Excellent logging proposition. Chas. Lichtman, Greensboro, Ala.

AN UNPRECEDENTED BARGAIN in big hardwood tract and mill; 80,000 acres, solid body; reliable cruiser's estimate, 800,000,000 ft., \$2,730,163; land \$4 per acre, \$318,824; new mill and equipment, \$250,000; total valuation, \$3,298,983. Offered for quick sale for only \$950,000. Woodcock, Ravenwood, La.

5000 ACRES VIRGIN TIMBER in Va. near 2 R. R.; easy to log; running water; splendid proposition. \$15 an acre if sold at once. Write W. T. Birmingham, Winchester, Va.

FOR SALE—10 acres in timber, surface rights, 9 miles south of city. \$500. Terms \$50 cash, balance \$10 per month. L. G. Pettyjohn, 1702 5th Ave., Birmingham, Ala.

TIMBER LAND

VIRGIN TIMBER FOR SALE—160 acres, hardwood and yellow pine, free of access, close transportation. J. I. Carruthers, 110 South Moody Ave., Tampa, Fla.

PINE AND HARDWOOD TIMBER—40,000 acres virgin pine, Louisiana. 10,000 acres virgin pine, Mississippi. Several tracts pine, 5 to 50,000 acres. Virgin hardwood tracts, 5 to 50,000 acres. Write J. L. Farley, De Soto, Mo.

TIMBER

FOR SALE—Fifteen-year timber lease for all the timber on 10,000 acres, located in middle Georgia. Will cut 6000 feet or more per acre as follows: 45% Red Gum, 35% White Oak, balance Red Oak, Hickory and Ash. All large and long-bodied timber. Tract paralleled by small river large enough for barges, and within 6 miles of trunk-line railroad. Price \$12 per acre. J. M. Cox, Waycross, Ga.

FOR SALE—BY OWNERS—Several tracts hardwood timber, white oak and chestnut oak, in boundaries from 2,000,000 to 15,000,000 feet, located on Chesapeake & Ohio Railway in Alleghany county, Virginia; also on branch Norfolk & Western Railway in Craig county, Virginia, and Monroe county, West Virginia. Address "Timber," P. O. Box 865, Charleston, W. Va.

FOR SALE—12,950,000 feet hardwood timber; no gum; 1 mile to I. M. & S. R. R. Ashley county; price \$3 per 1000. 7,395,000 feet hardwood timber, 3 1/2 miles to I. M. & S. R. R. Desha county; \$3 per 1000; no gum. 1,000,000 feet cypress brake; 6 miles to I. M. & S. R. Pulaski county; \$2 per 1000. L. P. Coleman, 207 W. 2d, Little Rock, Ark.

NEW MEXICO TIMBER—75 million feet, principally pine, some spruce and aspen; covering thirteen thousand acres, 4 miles from railroad. Hugh T. Henry Co., 9 Morehouse Block, El Paso, Texas.

REAL TIMBER BARGAINS—50,000,000 ft.; 70% N. C. pine, poplar and cypress, all original growth; on Southern R. R. in South Carolina. Liberal terms and low price. J. P. Mulherin (owner), Augusta, Ga.

NOTICE—Six million feet gum and one and one-half million pine timber for sale, conveniently located on Tar River and A. C. L. R. R., at a bargain. Timber, Pactotus, N. C.

FOR SALE—Hardwood timber on 2000 acres of land in Liberty county, Texas. Railroad runs through it. Price \$10,000. Apply owner, 1417 McKinney Ave., Houston, Texas.

SAWMILL TIMBER, ETC.

FOR SALE—Timber tract, mill, equipment, etc., on the Pacific Coast. Going concern. An opportunity which cannot be hawked. This is a large proposition and only interested need write. L. N., Box 506, Buffalo, N. Y.

SAWMILL AND TIMBER FOR SALE—We have a hand mill almost as good as new installed and ready to operate with 20,000,000 ft. hardwood timber. Will sell cheap. Terms easy. J. S. Cowart, Arlington, Ga.

FARM AND TIMBER LANDS

4000 ACRES, half timber and half cut-over land, for sale, preferably as a whole or in tracts of not less than 1000 acres each; property adjoins the town of Surrey, Appaling county, Ga., on Southern Railway main line; fine stand of both pine and cypress timber; ideal location for stock farm or combination mill and colony farming. Land in vicinity noted for its record production of staple crops. For sale by owner, attractive price and terms, especially if bought as a whole. Wm. Hurd Hillier, Atlanta, Ga.

SEVEN MILLION FEET of good saw timber, mostly yellow pine; nice size; long and smooth; together with 1558 acres of good land in Amelia Co., Va. This property has never been on the market before. Price \$33,000. Green & Redd, 9th and Franklin Sts., Richmond, Va.

WE OWN LARGE TRACTS OF TIMBER LANDS, cut-over lands and colonizing lands. If interested, address H. H. Wefel, Jr., & Co., Mobile, Alabama.

IMPROVED FARM on public road, half mile from R. R. station, near Clarendon, Ark.; 208 acres in tract; 175 cleared; \$35 per acre. Also, large timber tract. Write Grant Green, Clarendon, Ark.

TWO MILLION FEET of good saw timber (by estimate), together with 450-acre farm. All for \$7500. 5 miles from station. Green & Redd, 9th and Franklin Sts., Richmond, Va.

FARM AND TIMBER LANDS

SEND for Descriptive Bulletin No. 10 on Georgia farms, timber land, stock raising and pecan groves. Brotherton & Callahan, East Point, Ga. (Near Atlanta).

OIL AND FARM LAND

FOR SALE—1160 acres good land in Casieus Parish, La. About half prairie, balance denuded timbered land. About 200 acres creek bottom, which is first-class pasture. All balance good farming land. About 10 miles from village on good railroad. Good school. This is in the oil belt of Southwestern Louisiana and there are good oil indications on part of it. There is no telling what it will develop into. Good reasons for selling. Price \$12.50 per acre. O. S. Doty, Lake Charles, La.

CITY AND SUBURBAN PROPERTIES

THE CITY OF CHARLOTTE, N. C., in spite of wars and rumors of wars, is going steadily on with its building operations and growth.

Over \$150,000 of new homes just being completed or in process of completion.

Over \$750,000 of business and public buildings in process. We offer several very attractive investment opportunities in central business locations. Also, several very well located suburban tracts which are capable of large profits within the next few years.

Thirty years' real estate experience in New England and in Charlotte at your service dealing with F. C. Abbott & Company, Inc., Commercial Bank Bldg., Charlotte, N. C.

240 ACRES adjoining the city of Tampa with one-half mile of bay frontage. The property adjoins one of the most beautiful subdivisions now being developed in the South. If you are looking for subdivisions acreage or acreage to hold as an investment, here it is. Price right and terms reasonable. Thos. C. Hammond & Co., Giddens Bldg., Tampa, Fla.

SOUTHERN HOME

CHARMING Winter or Summer Home. Located at Beaufort, S. C., on Beaufort River, 3 stories, 12 rooms, 2 baths; 300 feet of piazza; neat 2-room cottage; servants' house, garage, and stable for horse and cow. Land includes 2 acres of land, lovely lawn and garden, the whole surrounded by a brick wall. The summer breezes are delightful, and the exposed water pipes have never frozen all this winter. Partridges are plentiful, and a number of deer have been killed nearby. Owner must sell. For further particulars address Rev. C. C. Brown, Beaufort, S. C.

FRUIT, FARM AND TRUCK LANDS

THESE COLUMNS are CLOSELY READ BY PEOPLE for information of all kinds about Southern properties of every description. If you have a property of any kind that you want to dispose of, try an advertisement in these columns. Others have to their advantage. For rates see head of department.

ALABAMA

ALABAMA FARM, 170 acres level land in mile of county site and 40 miles of Birmingham, on good road and bordered by creek; 125 acres cultivated; 6-room dwelling, barn, orchard, etc.; very fine land that will grow all crops and grasses; ideal for stock; best community. Price \$6000, on terms. Address Sid L. Beason, Whitney, Ala.

COME TO ALABAMA—1410 acres, located 6 miles from Eufaula, Ala., bordered by Chattahoochee River, free from overflow and as level as a floor; 910 acres in cultivation, all in one body; deep black sandy loam with clay subsoil; produces 1 1/2 bales of cotton per acre; 50 to 80 bushels of corn per acre. This is one of the best-located and best tracts of land in Alabama. Improvements include 16 good tenant-houses, a nice, large, 8-room dwelling with large barns and outhouses, large gin on place with latest improved machinery in operation. This is a beautiful country home and a bargain. Price \$30 per acre; 1/4 cash; balance, any reasonable terms at 6 per cent. interest. Bailey-Jones Real Estate & Insurance Company, 221 North 1st street, Birmingham, Alabama.

ARKANSAS

FOR SALE—By owner, 1440 acres of cut-over, level, fertile bottom land in Ashley Co., Ark., located 5 miles from 2 good R. R. towns. There is still some hardwood timber on the land. Price \$7.50 per acre. Would accept about \$5000 worth income property or merchandise as part payment. Max Fleischer, 258 Lewis St., Memphis, Tenn.

FLORIDA

FREE, "THE WINTER GARDEN OF AMERICA." To Fruit Growers, Truckers, General Farmers, Cattle, Hog and Poultry Raisers. Folks interested in the great Indian River Section of Florida write Indian River Farms Company, 15 Seminole Ave., Vero, Florida.

FOR SALE—Mirror Lake Park, 320 acres. Millions have been spent by wealthy people for something better, unusual, unique, but not one of these lavish spenders has yet discovered anything that can equal this natural dwelling with large barns and outhouses, site for private estate or select colony. One thing of kind in South. It is a Nature Sanctuary. For particulars write I. A. Wood, Dade City, Florida.

No. 14
Caldwell

nd in the
rairie, but
at 200 acres
is pasture
About 10
oad. Good
Southwest
oil indica
elling what
as for sell
Polby, Loh

RTIES
N. C.
ers, is going
ations and
being con
ible built
l very at
in centre
very well
re capital
w years,
nce in New
service in
pany, 18
N. C.

of Tampa
aga. The
beautiful
ed in the
subdivision
investment
reasonable
ens Bldg.

Home. Is
fort River
et of pho
nts' house
cow. Let
rn and the
y a wide
ghtful, and
ver from
plentiful
killed near
er garden
eak House.

LANDS

ELY READ
all kinds
ry descrip
any kind
an adver
ers have
ead of de

vel land in
of Birmingham
by creek
ling, bar,
will grow
stock; but
s. Address

on, located
ordered by
verflow and
cultivation,
loam with
cotton per
acres. This
best small
rovements
rge. From
outhouse;
proved ma
beautiful
ice \$30 per
able terms
Jones Road
North Star

res of em
Ashley Co.
t. R. town
ber on the
uld accept
ty or sub
Fletcher

RDEN OF
Truck
nd Poultry
great in
rite Indian
hole Ave.

230 acres
thy poss
unique, but
naa yet de
his nation
lonny. On
ature Sea
A. Wood